# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 701.—Vol. XIX.] LONDON, SATURDAY, JANUARY 27, 1849. [Price 6d.


### Stannaries of Cornwall—In the Vice-Warden's Court.

BICKFORD AND OTHERS *v.* RICHARDS.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date the 7th day of November last, Order and Decree that a SALE be made of the ORES, HALVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS, upon and belonging to TRENOW CONSOLS MINE, in the parish of PERRANUTHNOE, within the said Stannaries, under the direction of the Registrar of this Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, a PUBLIC AUCTION will be HOLDEN, at TRENOW CONSOLS MINE aforesaid, on Friday, the 16th day of February next, at Eleven o'clock in the forenoon, for SELLING the undermentioned MINING MACHINERY—viz:

All that ONE 85-inch cylinder STEAM-ENGINE, of equal beam, 8-feet stroke, with its appurtenances complete, without boiler.

For viewing the same, application may be made to Mr. W. V. Morrish, on the mine; Capt. Evans, St. Agnes; and for further particulars (if by letter, pre-paid), to Mr. Roberts, solicitor, Truro.

Dated Registrar's Office, *Jan.* 24, 1849.

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*RE BASSANO, A BANKRUPT.*—IMPORTANT AND EXTENSIVE SALE AT THE ALBION WORKS, LIVERPOOL-STREET, BIRMINGHAM.

MR. JOHN RODERICK will SELL, BY AUCTION, at the above works, on Monday, the 29th day of January, and TWENTY following days (Saturdays and Sundays excepted), by direction of the assignees of Mr. Francis Bassano, coachfounder, plater, and manufacturer of railway lamps, springs, and ironwork—the extensive and valuable MACHINERY and WORKING TOOLS, together with an immense quantity of FINISHED and UNFINISHED STOCK, about ONE HUNDRED TONS of BEST SPRING and other STEEL and IRON, and other valuable property.

The MACHINERY is of the most valuable character, and has been made on the most approved principles, and consists of 26 self-acting slide and boring lathes, planing and drilling machines, from 6 feet to 16 feet beds, by Whitworth, Sharpe, Roberts, and Co., and Mr. Batho, Manchester; Fox and Co., Derby, and other well-known machinists. Also, a most valuable lever spring-testing machine, and castings for a large punching machine, an hydraulic testing machine, almost complete, and a neat and valuable machine for fitting spring plates of any length, and may be hardened at one heat.

The STOCK is very extensive, and consists of railway and other carriage iron-work, springs, patent axle-trees, railway signal and other lamps, and every description of carriage furniture.

The TOOLS are most numerous, and of the best quality and description, and comprise smiths' tools, screwing apparatus, turning tools, and all the other tools requisite for carrying on an extensive business as a coachfounder.

There will also be offered FOR SALE, THREE REGISTRATIONS of RAILWAY ROOFS and SIGNAL LAMPS, in great demand.

Full descriptive particulars will appear in catalogues, to be had of James Christie, Esq., official assignee; W. P. Allcock, Esq., solicitor; and of John Roderick, auctioneer, all of Birmingham, seven days prior to the sale, price 1s. each, to be returned to purchasers, or on receipt of 24 postage stamps, a catalogue will be forwarded, pre-paid.

The whole may be viewed seven days prior to the sale.

N.B.—The sale of machinery will take place on Thursday, the 8th of Feb., at Twelve o'clock. Catalogues of this day's sale may be had gratis.

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VALUABLE MINE PROPERTY.

MR. E. H. LIDDELL will SELL, BY AUCTION, on Thursday, February 1, 1849, at Eleven o'clock in the forenoon, at GREAT MICHELL CONSOLS MINE, in the parish of ST. BREWARD, about 7 miles from Bodmin, and 4 from Camelford, the following MINE MATERIALS—viz.:

| | | | |
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| 1 | 9-feet 12-inch pump | 1 | 10-feet 7-inch working barrel |
| 1 | 7-feet 10-inch ditto | 1 | 9-feet 8-inch ditto |
| 1 | 9-feet 10-inch ditto | 1 | 10-feet 8½-inch ditto |
| 19 | 9-feet 9-inch ditto | 1 | 7-inch plunger bottom, with pole, stuffing-box, and gland |
| 2 | 6-feet 9-inch ditto | 70 | Fathoms of 10-inch capstan rope—nearly new |
| 1 | 44-feet 9-inch ditto | | Sundry lots of timber, plank, and machines and pipes |
| 7 | 9-feet 8-inch ditto | | Ditto iron, new and old |
| 1 | 18-feet 7-inch ditto | | 43-inch smiths' bellows—nearly new |
| 1 | 3-feet 14-inch ditto | | 38-inch ditto |
| 1 | 10-feet 7-inch windbore | | Underground iron and wood rope |
| 1 | 10-feet 8-inch ditto | | Horse-whim, and part of one old do. |
| 1 | 6-feet 7-inch doorpiece and door | | |
| 3 | 6-feet 8-inch ditto | | |
| 1 | 7-feet 7-inch working barrel | | |

Also,—Whim-rope, smiths' tools, steel anvil and vice, block and tackle rope, chain and bevels, triangles and windlasses, whim and other kibbles, candle and other chests, crow sticks, taps, tool plates, dressing tools and underground barrows, grease and nails, ladders, about 80 fathoms, 3 boxes, scales, and stand, bell and stand, bucket prongs and brasses, grindstone and stand, castings of angle-bob, with saddles and brasses, castings, seatings, 9 large pulleys and 1 whim ditto, shaft tackle, with pulleys, mine dial, with quadrant attached, office furniture, 1 large and 1 small pair of blocks, old cast-iron, brass, and wrought-iron, a pair of connection caps and brass, miners' tools, smiths' trough, large cistern, knocker line and stand, plane, augers, gimlets, hatchets, and saw, sump-house grates, oil, white lead, 2 wood matchings, shaft-rods, &c.

The materials are in good condition, having been used only about three years.

Any further information may be obtained of Capt. Richards, on the mine, or of the auctioneer, at Bodmin.—Dated Jan. 19, 1849.

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A FREEHOLD ESTATE, in the county of BRECON, containing 200 acres of Arable and Wood Lands, rich Veins of Iron Mine, Fire-Clay, &c.

MR. M. WHITTINGTON has been instructed to OFFER FOR SALE, BY AUCTION, at the CASTLE HOTEL, NEATH, on Thursday, February 1, 1849, between Two and Three o'clock in the afternoon, subject to such conditions as shall then be produced, in Two Lots,

LOT I.—All that valuable FREEHOLD FARM and LANDS called CEFN-TROSGOOD, situate in the parish of Ystradvelte, in the county of Brecon, and containing, by estimation, 200 acres of arable and wood land; a substantial-built dwelling-house, with all necessary out-buildings; also, all the IRONSTONE and other MINERALS contained in the property. There is a right of common on the Great Forest of Brecon, for depasturing 200 sheep, 14 ponies, and 20 head of cattle, at the moderate sum of 15d. per annum.

LOT II.—All those rich VEINS of BLUE and YELLOW FIRE-CLAY, situate under Lot I., and known as the celebrated Dynas Fire-Clay, now in the occupation of Mr. Chas. Roger Harris, under a lease for 60 years, 8 of which have expired, at the sleeping rent of £100 per annum, or 18d. per ton royalty. There is a tramroad from the works to the Neath Canal Navigation. The property is delightfully situated in the upper part of the Vale of Neath, within 200 yards of the turnpike-road to Brecon, 1½ mile of the Neath Canal Navigation, 1 from the Vale of Neath Railway, and midway between Brecon, Neath, and Merthyr.

Further particulars may be had on application to Mr. John Thomas, postmaster, Glyn-Neath, who will get the property shown to parties wishing; or to the auctioneer, Post-office, Neath.

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MALLEABLE IRON-WORKS AND PROPERTY FOR SALE, BY PRIVATE BARGAIN.

MALLEABLE IRON-WORKS.—These large WORKS, belonging to the WEST OF SCOTLAND MALLEABLE IRON COMPANY, situated at MOTHERWELL, in the parish of DALZIELL and county of LANARK, consisting of REFINERY FIRES, FORGE, RAIL ROLLING, SLITTING, HOOP, PLATE, and SHEET MILLS, and, with a little further outlay, capable of producing about 600 tons of finished iron weekly.

These works, which have been erected on the most approved plan, have been in operation since May, 1847; and, besides rails, can be made to turn out all the sizes and varieties of iron usually required by the trade.

There are on the ground 1 blowing engine of about, say 60-horse power, for refineries, forge and 2 mill engines, condensing and that work expansively, each about 100-horse power. Between the mill engines there is a small subsidiary high-pressure engine, of about 40-horse power, for driving the guide mills. There are likewise one lathe and one pumping high-pressure engines, each about 20-horse power. All these engines, with one exception, are in first-rate working order.

Attached to the works are smiths', wrights', and fitting-up shops, with turning lathes, vices, &c., complete. Also, offices, stables, stores, mill manager's house, and 98 workmen's houses, besides ample accommodation in the village of Motherwell immediately adjoining.

These works are most favourably situated, being surrounded by coal and pig-iron works; and, as the Caledonian Railway forms one of the boundaries of the works, railway communication to all parts of the kingdom is afforded; and, besides the existing accommodation, a direct communication with the Harbour of Glasgow, distant 10 miles, will be had on the opening of the Clydesdale Junction Railway, which is now nearly completed.

ESTATES OF BRAIDHURST AND MILTON.

These ESTATES consist of 390 acres or thereby, on which there is an excellent farm steading, with out-houses and cottars' houses sufficient for a large farming establishment. The grounds having been for some years in the hands of the proprietors, are in the best condition.

The lands contain minerals. The coal has been wrought at a moderate depth, for the last 12 months, for the supply of the works, and has been proved to be of excellent quality. The upper seam of coal, 4 feet thick, has been found by bores in several parts of the lands, and is of equal quality; and there is no doubt that all the usual seams of the district run through the property.

The Feu duties exigible from the buildings on the lands, including the village of Motherwell, which amount to about £300 per annum, will be sold with the lands.

These lands, with the minerals and Feu duties, will be sold either apart from, or along with the works.

For further particulars, application may be made to Mr. Lawrence Hill, jun., at the works, at Motherwell; Mr. James Anderson, at the company's office, 88, St. Vincent-street; or Messrs. Moncrieff, Paterson, and Forbes, 45, West George-street, Glasgow, in whose hands are the title deeds of the property.—Glasgow, January 2, 1849.

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VALUABLE SLATE QUARRY, in CARNARVONSHIRE.—TO BE LET, for such term, and on such conditions, as may be agreed upon, the RIGHT of WORKING a valuable ROCK of SLATE, on the BLAENY-CWM-FRIDD, in the parish of PENMACHNE, upon which a large sum of money has been expended in driving a level, and in other works. The metal of this rock has been proved to be equal to that of the finest Festiniog Quarries, which lie in the vicinity. The undertaking would suit a joint-stock company or a private speculator, as it can now be brought into early and extensive work, at a comparatively small outlay.

For particulars apply to Francis Hallowes, Esq., National Provincial Bank, Dolgelly; and to view the quarries, to Mr. Humphrey Williams, Blaeny-cwm Farm, Penmachne.

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TO BE SOLD, OR LET ON ROYALTY, the DARLASTON GREEN COLLIERY AND IRONSTONE MINES,

In the district of SOUTH STAFFORDSHIRE, now working by the "Galvanised Iron Company."

These MINES comprise about 26 acres, held under lease, of which about 22 years are unexpired. They contain all the measures of IRONSTONE usually found in that locality—the excellence of the quality of which is well known, and a small portion of the New Mine Coal, the greater portion of which has been worked. The mines have recently been opened, and drained at a considerable expense, and are now in complete working order. There are a sufficient number of shafts sunk on the estate to get the whole of the mines; and a very trifling outlay will open the measures of ironstone which are not now at work.

The PUMPING and WINDING-ENGINES are perfectly EFFECTIVE, and all the PLANT in EXCELLENT REPAIR. The Birmingham Canal runs into the estate, and there is abundant demand for the produce of these mines at the surrounding iron-works

For further particulars, apply at the office of the Galvanised Iron Company, 3, Mansion-house-place, London; or to Mr. Taylor, King Hill-field, Darlaston.

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TO BE SOLD, OR LET ON LEASE (FREEHOLD), the PHŒNIX IRON-WORKS, WEST BROMWICH,

In the district of SOUTH STAFFORDSHIRE, at present carried on by the "Galvanised Iron Company."

These WORKS, which are amongst the most eligible and complete in the district, comprise the following MILLS and FORGES—viz.:

1. An ENGINE, of 100-horse power, by Boulton and Watt, in brick engine-house, with two 35-feet boilers, and all the requisite machinery, of the best description, recently erected, driving a forge; a 20-inch BOILER-PLATE TRAIN, and a RAIL MILL—appended to which is a small ENGINE, of 10-horse power, with two PUNCHING and STRAIGHTENING MACHINES for RAILS—complete.

2. An ENGINE, of 60-horse power, by J. and G. Davis, in brick engine-house, with three 25-feet boilers, with powerful machinery, driving a forge; an 18-inch BOILER-PLATE and SHEET MILL; and a 16-inch TRAIN, for the manufacture of Bars, T Iron, and Angle Iron. Attached to this work, is an ENGINE, of 20-horse power, on cast-iron frame, driving a small 8-inch MERCHANT TRAIN, SAW, and TURNING-LATHE.

With these Mills and Forges are 34 PUDDLING and HEATING FURNACES—the whole standing on about two acres of freehold land, bounded by the main road on one side, and by the Birmingham Canal on the other, on which are the necessary wharfages for the use of the works.

The capacity of the works is equal to about 350 to 400 tons of finished iron weekly.

Adjoining the works, on a separate tenure, are a MANAGER'S HOUSE, with about FIVE ACRES of LAND, and FOUR WORKMEN'S HOUSES.

There is an extensive assortment of ROLLS, for the manufacture of the various descriptions of iron for which these works have been long known, and for which there is an extensive and established connection—the whole forming a most complete and valuable establishment for the supply of manufactured iron in all its branches.

For further particulars, apply either at the offices of the Galvanised Iron Company, 3, Mansion-house-place, London; or to Mr. Spencer, on the premises.

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CARDIGANSHIRE—IMPORTANT SALE of VALUABLE MINERAL PROPERTY and MACHINERY.—TO BE SOLD, BY PRIVATE CONTRACT, the CWM SEBON SILVER LEAD MINE, CARDIGANSHIRE, together with the whole of the valuable MACHINERY belonging thereto, unequalled by any other in the county.—The mine is situated in a valley 7 miles from the shipping port of Aberystwith, adjoining to and on the same vein as the once celebrated Cwmsymlog Mine, formerly worked by Sir Hugh Middleton with so much success.

Very valuable discoveries have been recently made in driving under the mountain towards the Cwmsymlog Mine, with a cover of (or unwrought ground) 300 yards high; some of the most promising and productive mines in the neighbourhood are contiguous to it and parallel veins.

This mine produces more silver to the ton of lead ore than any other in the neighbourhood; and with a small capital, invested for the purpose of sinking shafts and driving levels, to open and lengthen it, promises to make one of the richest in the locality.

Such an opportunity to a spirited company rarely presents itself, for no expense has been spared in setting up efficient machinery, and obtaining water for the effectual working of the mine throughout the year.

The MACHINERY comprises a 60-feet pumping-wheel, capable of putting the mine more than twice its present depth. A very strong and powerful drawing machine, manufactured by Messrs. Sandys, Carne, and Vivian, of Cornwall, on the most improved construction. A crushing machine, stamps, jigging machines, and every other machinery requisite for washing and making merchantable the ores, and all in working order.

Further particulars may be obtained on application to Mr. C. M. Thomson, manager of the North and South Wales Bank, Aberystwith; or to Mr. Thomas Jones, jun., merchant, Aberystwith.—Dated Jan. 18, 1849.

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CARMARTHENSHIRE.—TO BE LET, OR SOLD, several SEAMS OF ANTHRACITE COAL and IRONSTONE, lying under the FARMS of CILFERY, NEW INN, FOY, and ROSEFACH, situate in the parishes of LLANELLY and LLANGENDEIRNE, in the said county. If required, the SURFACE also will BE DISPOSED OF.—The above property is within a short distance of the Kidwelly Canal, and distant from Pembrey Floating Harbour 8 miles, where the present demand for coal far exceeds the supply.

Further particulars can be obtained on application to Dr. Lawrence, Carmarthen; or to Mr. John Griffiths, Abergwilly, near Carmarthen.

Carmarthen, Jan. 20, 1849.

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COAL.—TO BE SOLD, OR LET, a valuable COAL MINE, the property of Sir Thomas G. Hesketh, Bart., situate about five miles from the important manufacturing town of BLACKBURN, in the township of Great Harwood, in the county of Lancaster. The mine has been recently proved, and found, at 77 yards from the surface, to be 5 feet in thickness, and of excellent quality. It is commonly called, or known by the name of, the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots.

A section of the borings may be seen by applying to Mr. Boosie, Rafford Hall, Ormskirk; or to Mr. Whittle, coal viewer, Charnock Richard, Chorley—to either of whom proposals may be sent.

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CARNE'S BULL HOTEL, 92, BISHOPSGATE-STREET-WITHIN, LONDON.

GEORGE CARNE, in announcing the REOPENING of this long celebrated HOTEL, which has been newly furnished, painted, and decorated throughout, begs to assure his friends, and strangers visiting the metropolis, that every effort will be used to afford them all the comforts of home. The Sleeping Apartments, to which especial care has been directed, will be found equal to any in London, whilst the following List of Charges will show that every thing is conducted on the most economical scale.

Bed and Breakfast, 3s. per day; Dinner of two courses, and imperial half-pint of wine, at the ordinary, at half-past One, 2s.; private sitting-rooms, from 2s. per day.—Fixed charge for servants.

Porter and female attendant in waiting, for all the trains.

Wines, of the highest quality, drawn from the wood.—Plymouth Gin, and all other spirits, of the purest quality.

N.B.—Mine Agents having *bond fide* valuable Setts to bring before the public, will be introduced to parties likely to advance their interests.

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TINCROFT MINES COMPANY.—At a General Meeting of shareholders, held at the offices, 44, Finsbury-square, London, on Friday, the 19th January, 1849,

RICHARD HODGSON, Esq., in the chair,

The following resolutions were carried unanimously:—

Resolved,—That the report and accounts now submitted be received, adopted, and entered in the minute book of the company.

Resolved,—That it is the opinion of this meeting, that, after hearing the explanation of the directors, relative to the projected tin smelting establishment, that a preference in the distribution of the shares be given to the shareholders in this mine, to the extent of 3000 sharesout of 5000, of which it is understood the company is to be constituted.

Resolved,—That the thanks of this meeting be presented to the chairman and directors, for their able, active, and judicious management of the property of this company, and the elaborate and satisfactory statement which they have furnished to the meeting.

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TRENANCE MINES COMPANY.—At the Half-yearly General Meeting of shareholders, held at the office, No. 12, Cornhill, London, on Friday, the 26th day of January, 1849,

GEORGE BURNAND, Esq., in the chair,

The following resolutions were passed:—

Proposed by J. H. Pidcock, Esq., and seconded by J. Macmeikan, Esq.,

That the report and accounts, now read, be received, adopted, and entered in the cost and transfer book.—Carried unanimously.

Proposed by S. W. Griffin, Esq., and seconded by J. H. Pidcock, Esq.,

That the best thanks of the meeting be given to the chairman and directors for their attention to the business of the company.—Carried unanimously.

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TO MINE OWNERS, AGENTS, AND OTHERS.—GENTLEMEN of influence and connection are required to act as AGENTS for CORNWALL, DEVON, and WALES, and for the PRINCIPAL TOWNS in the MINING DISTRICTS of the United Kingdom.—Address "Miner," care of Editor of the *Mining Journal*, 26, Fleet-street, London.—[All communications forwarded in reply to this advertisement will be answered in a few days.]

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SOUTH AUSTRALIA.—The ADVERTISER is desirous of a SITUATION in this COLONY. As a Chemist he has had unusual opportunities in this country of acquiring a knowledge of his profession, having had extensive experience in some of the Chemical Arts, including Brewing, as conducted in London; also much Laboratory practice in the Analysing of Mineral Waters, and the Assaying of the Ores of Iron, Copper, Lead, and Silver. The highest testimonials of character and ability can be furnished.—Address to "Delta," at the office of the *Mining Journal*, 26, Fleet-street.

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WANTED,—AGENT TO A SMELTING-WORKS.—A YOUNG MAN, of respectable connections, who has had several years experience in the management of lead and silver works, and whose testimonials as to abilities and character are of the first class, and who can give the very best references, wishes to procure a SITUATION AS ABOVE. The advertiser had under his management reverberatory and blast-furnaces, crystallising pots, refining furnaces, rolling and pipe mills, shot tower, &c., in the management of which he acquitted himself with credit. His experiments in the conversion of slag lead proved highly successful. Private affairs caused his resignation of his place some time since. Any party engaging him would find him to have a thorough knowledge of his business and book-keeping, and to pay strict attention to the concern under his care.

Letters (pre-paid, stating terms, &c.) addressed to "A. Z." (lead manufacturer), care of the Editor of the *Mining Journal*, No. 26, Fleet-street, London, will meet with prompt attention.—January 8, 1849.

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WANTED,—A PARTNER, who can advance from £5000 to £6000, to JOIN an ENGINEER and IRONFOUNDER, of equal capital, who is well established in Manchester, doing a profitable business, and wishes to extend it—he may take an active part, or not, as he pleases. Satisfactory information will be given as to the present position and future prospects of the business.

Apply to Will. Joynson, solicitor, Manchester.

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WANTED,—ASSAYER, REFINER, or SMELTER of COPPER and SILVER-LEAD ORES.—A SITUATION, in either of the above capacities, either at home or abroad, is WANTED by the advertiser, who has had 25 years' practical experience with every description of fuel. He is the discoverer of a method for extracting the entire produce from the ores; and also for extracting all the copper from ores of such low produce as will not otherwise pay where fuel is dear. The most satisfactory references can be given.—Address "J. H.," office of the *Mining Journal*, 26, Fleet-street, London.

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WANTED,—A GENTLEMAN, of some years practical experience in the management of one of the largest works in South Wales, where he is at present engaged, is desirous of OBTAINING an APPOINTMENT ABROAD, either in an IRON, TIN, or COPPER WORKS. Satisfactory references can be given as to his respectability and knowledge. He would have no objection treating with any party for an engagement at home.—Address (post-paid) "P. E.," Post-office, Bristol.

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EAST BIRCH TOR TIN MINE.—APPLICATIONS for the FEW SHARES in this COMPANY remaining unappropriated, to be made to the secretary, 2, Winchester-buildings.

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RUNNAFORD COOMBE MINE.—An excellent opportunity is now OFFERED to any person wishing to PURCHASE SHARES in the above valuable concern.—Mr. BROUGHTON has FOR SALE a FEW SHARES, very cheap.

Apply to Mr. Broughton, 30, Taylor's-buildings, Woolwich.

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TO MINERAL ESTATE PROPRIETORS, MINING COMPANIES, AND OTHERS.

Mr. C. S. RICHARDSON respectfully begs to inform the public, that being now engaged on a MINING SURVEY, in the EASTERN PART of CORNWALL, would be happy to undertake the SURVEY of any MINE and MINING GROUND, in any part of the county, during the ensuing month. Plans and Sections of Underground Workings, Drawings of, and Estimates for, every kind of Machinery, Reports on Mines and Mineral Estates, with lithographic illustrated details, Prospectuses for New Companies carefully drawn up, and every assistance rendered necessary to Mining Enterprise—charges most moderate.—Mr. C. S. R. further wishes to inform his friends, that he is prepared to undertake the ENTIRE WORKING of any MINE BY CONTRACT, according to a plan given, on due security of payment being entered into by the employers.

Apply (by letter) to the office, 6, Whitefriars-street, London; or to Mr. Thomas Carpenter, Callington; or Mr. Warne, St. Austell.

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MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities.

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MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedently low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking offering unusual advantages, situated in one of the best mining districts in Cornwall.

Full particulars will be furnished on application.

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MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES.

3, *GEORGE-YARD, LOMBARD-STREET, LONDON.*

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

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CAMERON'S COALBROOK STEAM COAL & SWANSEA AND LOUGHOR RAILWAY COMPANY.

(*Registered and Incorporated by 9 and 10 Victoria, cap.* 401.)

Notice is hereby given, that the next ORDINARY MEETING of the shareholders of this company, with reference to the company's railway, will be HELD at the company's offices, 2, Moorgate-street, London, on Wednesday, the 31st day of January inst., at One o'clock in the afternoon precisely.—The transfer books will be closed from the 27th until the 31st inst., both inclusive. By order of the board of directors,

2, Moorgate-street, London, Jan. 12, 1849. A. C. HOWDEN, Secretary.

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EUROPEAN GAS COMPANY, 39, Finsbury-circus, London, January 25, 1849.—Notice is hereby given, that, the directors finding an increase of the capital of the European Gas Company to be necessary, for the due fulfilment of the contracts entered into with the authorities of the cities and towns occupied by the company, an EXTRAORDINARY GENERAL MEETING of the shareholders will be HELD at the house of the company, 39, Finsbury-circus, London, on Thursday, the 15th day of February next, at One o'clock in the afternoon precisely, to consider and decide what further amount of capital shall be raised, and under what terms and provisions, pursuant to the 22d clause of the Deed of Settlement of the company.

By order of the board, J. B. GREAVES.

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ASTURIAN MINING COMPANY.—The board of directors hereby give Notice, that they have made a further CALL of ONE POUND per share upon the shares in the capital stock of this company, and that such call is PAYABLE at the London and County Bank, Lombard-street, on or before the 1st day of March next. By order of the board, K. MACKENZIE, Secretary.

Offices of the company, 9, Austinfriars, Jan. 26, 1849.

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CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—Notice is hereby given, that a DIVIDEND of ONE POUND per share will be PAID to the holders of certificates in this company, at the office of the association, 26, Austinfriars, on and after the 15th February next, between the hours of Eleven and Three o'clock. The proprietors are requested to leave their certificates at the office, for examination, three clear days before the day of payment.

By order of the court of directors,

26, Austinfriars, Jan. 27, 1849. WM. LECKIE, Secretary.

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TAMAR SILVER-LEAD MINING COMPANY—TWELFTH DIVIDEND.—Notice is hereby given that a DIVIDEND of TEN PER CENT. has been declared by the directors upon the paid-up capital of this company, PAYABLE on Wednesday, the 7th day of February next, and succeeding Wednesdays, between the hours of Twelve and Four. The certificates are required to be left at the office two clear days in order to be examined and marked.—44, Finsbury-square, London, January 18, 1849.

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ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

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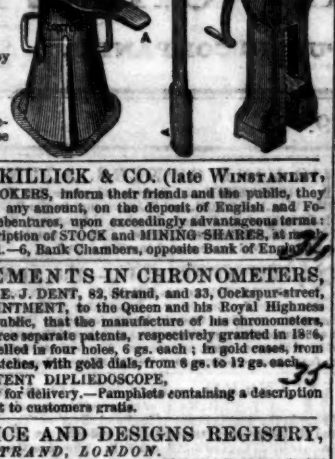

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PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 6 gs. to 12 gs. each. 35

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ELECTRIC LIGHT.—Mr. STAITE'S SPECIFICATION (copied verbatim from the original) is given exclusively in the "MECHANICS' MAGAZINE of the 20th and 27th of January, illustrated by upwards of 40 engravings. Price 3d., stamped 4d.—Patent Designs Registration Office, No. 166, Fleet-street. 37

All the NEW PATENTS, all the NEW ARTICLES of UTILITY REGISTERED, and the Claims of all the Specifications of Inventions enrolled in each week, are given regularly in the "MECHANICS' MAGAZINE," published by Messrs. J. C. Robertson and Co., Patent and Registration Agents, 166, Fleet-street, London.—Price 4d. stamped, to go by post; 3d. unstamped.—Persons intending to patent or register inventions, supplied gratis with printed instructions on personal application, or by letter, as above.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

Just published, the thirty-ninth thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, by the Author, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical colored engravings, &c.

MANHOOD: the CAUSES of its PREMATURE DECLINE, with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS, consulting surgeon, 7, Frith-street, Soho-sq., London. 38

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*Sun*, Evening Paper.

J. L. Curtis, *On Manhood, and the Causes of its Premature Decline; with Plain Directions for its Perfect Restoration.*—[Strange, Paternoster-row.]—This is a book replete with valuable advice and information. It developes the fearful shoals on which a large proportion of human happiness is wrecked, and furnishes a chart by which they may be avoided and escaped. Fortunate for a country would it be, did its youth put into practice the philanthropic and scientific maxims here laid down. One cause of matrimonial misery might then be banished from our land, and the race of the enervate be succeeded by a renewal of the hardy vigorous spirits of the olden time.—*United Kingdom Magazine.*

*Manhood:* a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

*Manhood:* by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

Published by the author, and may be had at his residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Robinson, 11, Greenside-street, Edinburgh; Campbell, chemist, 146, Argyle-street, Glasgow; Berry and Co., Capel-street, Dublin; and by all booksellers.

Illustrated by 26 Anatomical Coloured Engravings on Steel, On Physical Disqualifications, Generative Incapacity, and Impediments to Marriage. New Edition, enlarged to 196 pages.—Just published, price 2s. 6d., or by post, direct from the establishment, 3s. 6d. in postage stamps.

THE SILENT FRIEND: a medical work, on the infirmities and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., consulting surgeons, 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Starie, 23, Titchborne-street, Haymarket; and Gordon 146, Leadenhall-street. 39

PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. This section is illustrated by 17 coloured engravings.—PART THE FOURTH contains a prescription for the prevention of disease by a simple application, by which the danger of infection is obviated. This important part of the work should not escape the reader's notice.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

THE CORDIAL BALM OF SYRIACUM is exclusively employed in treating nervous and sexual debility, impotence, &c., 11s. and 33s. per bottle.—THE CONCENTRATED DETERSIVE ESSENCE, an anti-syphilitic remedy, for purifying the blood in cases of infection, secondary symptoms, eruptions, and the abuse of mercury, 11s. and 33s. per bottle.—PERRY'S PURIFYING SPECIFIC PILLS, 2s. 9d., 4s. 6d., and 11s. per box—a certain remedy for gonorrhœa, gleet, strictures, and chronic inflammation of the bladder.—Consultation fee, if by letter, £1. A full description of the case is necessary, stating age, habits, and position in society. £5 packets, with advice, to be had at the establishment only, by which the fee, £1, is saved.—Messrs. Perry, surgeons, are in attendance daily at 19, Berners-street, from 11 to 2, and 5 to 8; on Sundays, from 11 to 1.

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SELF-PRESERVATION: A Medical Treatise, on the Physiology of Marriage, and on the Secret Infirmities and Disorders of Youth and Maturity, usually acquired at an early period of life, which enervate the physical and mental powers, diminish and enfeeble the natural feelings, and exhaust the vital energies of Manhood; with Practical Observations on the Treatment of Nervous Debility, whether arising from these causes, close study, or the influence of tropical climates; local and constitutional weakness, syphilis, stricture, and all diseases and derangements resulting from indiscretion; with 40 coloured engravings, illustrating the Anatomy, Physiology, and Diseases of the Reproductive Organs, explaining their various structures, uses, and functions, and the injuries that are produced in them by solitary habits, excesses, and infection.

BY SAMUEL LA'MERT, M.D., 37, BEDFORD-SQUARE, LONDON. 40

Doctor of Medicine, Matriculated Member of the University of Edinburgh, Licentiate of Apothecaries' Hall, London, Honorary Member of the London Hospital Medical Society, &c.

REVIEWS OF THE WORK.

"The author of this singular and talented work is a legally qualified medical man, who has evidently had considerable experience in the treatment of the various disorders, arising from the follies and frailties of early indiscretion. The engravings are an invaluable addition, by demonstrating the consequences of excesses, which must act as a salutary warning to youth and maturity, and by its perusal, many questions may be satisfactorily replied to, that admit of no appeal, even to the most confidential friend."—*Era.*

"Unquestionably this is a most extraordinary and skilful work, and ought to be extensively circulated; for it is quite evident that there are peculiar habits acquired at public schools and private seminaries, which are totally unknown and concealed from the conductors of those establishments, and which cannot be too strongly reprobated and condemned. The engravings that accompany the work are clear and explanatory; and being written by a duly-qualified medical practitioner, will, doubtless, be the means of saving many a youth, as well as those of maturer age, from the various evil consequences resulting from early indiscretions."—*Magnet.*

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## Transactions of Scientific Bodies.

*MEETINGS DURING THE ENSUING WEEK.*

| | | |
|---|---|---|
| THIS DAY | Asiatic—8, New Burlington-street | 2 P.M. |
| | Westminster Medical—17, Saville-row | 8 P.M. |
| MONDAY | Medical—Bolt-court, Fleet-street | 8 P.M. |
| WEDNESDAY | Society of Arts—Adelphi | 8 P.M. |
| | Geological—Somerset-house | 8½ P.M. |
| THURSDAY | Royal—Somerset-house | 8½ P.M. |
| | Antiquaries—Somerset-house | 8 P.M. |
| FRIDAY | Royal Institution—Albemarle-street | 8½ P.M. |
| | Botanical—20, Bedford-street, Covent-garden | 8 P.M. |
| SATURDAY | Royal Botanic—Inner Circle, Regent's Park | 3½ P.M. |

### INSTITUTION OF MECHANICAL ENGINEERS.

The annual meeting of this institution was held at the Queen's Hotel, Birmingham, on Thursday evening, the 25th inst.—In the absence of the president, Mr. R. M'CONNELL read the report of the council, which congratulated the members on the successful progress of the institution, which now numbered 189 members, of whom 16 are honorary members. The council deeply regretted the death of the late president, George Stephenson, Esq., who was the first president of the institution. The rules of the society had been revised, and would be submitted to the meeting. The council congratulated the meeting on the readiness with which Robert Stephenson, Esq., had consented to take the chair vacated by the death of his father. The financial report showed a balance in hand of 147*l.* 9s. 1d.—The report was unanimously adopted.—R. Stephenson, Esq., was then formally constituted president; and a vote of thanks was passed to Ald. Gesch for his services as treasurer, and that gentleman was reappointed to the office.—Mr. E. Marshall was elected secretary for the ensuing year. The rules, as amended, were agreed to; after which the officers and council for the ensuing year, elected by ballot, were announced.—A vote of thanks was passed to the council for their services during the year.

A paper on the subject of a collision apparatus, with a supplementary one on a station buffer, for effecting an improved break for stations, written by Mr. C. De Bergue, of London, was read by the secretary, and illustrated with plans and a model.

Mr. John Richmond, of Middlesex, exhibited an improved locomotive engine counter, for registering the strokes of railway engines at a high velocity. It was remarkable for the simplicity of its movement, and elicited a favourable expression, although the principle of its construction was not new.

A paper on a patent disengaging apparatus, for disconnecting steam-engines, and diminishing the shock of the disconnection, written by Mr. Hick, of Bolton, was read by the secretary. The apparatus was intended to prevent frightful accidents, and might be worked with safety by any one.

The model of an improved patent railway chair and switch, manufactured by Mr. Baines, of Norwich, was explained by the secretary. It was highly approved; but, as the inventor was absent, the discussion upon it was postponed to the next meeting, to give him an opportunity of explaining its merits, and stating the cost.

## Proceedings of Public Companies.

*MEETINGS DURING THE ENSUING WEEK.*

| | |
|---|---|
| THIS DAY | Australian Trust Company—offices, at Twelve. |
| MONDAY | Holyford Mining Association—offices, at Twelve. |
| | Royal General Annuity Society—London Tavern, at One. |
| | West of London and Westminster Cemetery Company—Bath Hotel, Piccadilly, at One. |
| TUESDAY | London and Greenwich Railway—offices, at One. |
| | Reliance Mutual Life Assurance Company—offices, at One. |
| | London Cemetery Company—Radley's Hotel, Blackfriars, at Eleven. |
| WEDNESDAY | Westminster and Marylebone Patent Ramoneur Co.—offices, at Two. |
| | Continental Cattle Steam-ship Conveyance Co.—George & Vulture, Sts. |
| | Cameron's Coalbrook Steam Coal Company—offices, at One. |
| THURSDAY | National Disinfected and Dry Manure Co.—King's Head, Poultry, One. |
| | London and County Joint-Stock Bank—London Tavern, at One. |
| | Basingstoke Canal Navigation Company—Gray's Inn Hotel, at Twelve. |
| FRIDAY | Law Life Assurance Company—offices, half-past Eleven. |
| | Union Society—offices, Cornhill, at Twelve. |

*[The meetings of Mining Companies are inserted among the Mining Intelligence.]*

### UNION BANK OF AUSTRALIA.

A special general meeting, numerously attended, of proprietors in this bank, was held on Monday, the 22d inst., at the company's offices, 38, Old Broad-street, City. WILLIAM WILSON, Esq., in the chair.

The notice convening the meeting having been read, the CHAIRMAN rose, and laid the following report before the assembled proprietary:—

SUPPLEMENTARY REPORT.

The directors have pleasure in stating, that the returns which have been received from all the branches since the annual meeting in July last, exhibit a general and very satisfactory improvement in the business of the bank.

Previous to the date of the last letters received from the colonies, accounts had arrived out of the disturbances which had taken place in Europe, and of the continued depression in the home market for wool, the staple article of colonial export. Such intelligence naturally produced considerable gloom and disappointment. It is, however, most gratifying to learn by these advices, that commercial credit has, notwithstanding, been well sustained. The colonists, confident in their own resources, are preparing to meet the losses which they may sustain in consequence of the low price of wool, by increased activity and economy.

The directors do not apprehend that any loss will arise upon the bills drawn against shipments of wool, which have been negociated by the branches of this bank.

The vast body of emigrants, including a large proportion of a superior and highly eligible class, who have left the shores of this country for Australia during the past year, and the amount of capital which has been transmitted on their account, must produce very important and beneficial results. The enterprise of our colonial fellow-subjects will be thereby stimulated, in the only safe and legitimate mode—namely, by the introduction both of capital and labour; the internal resources of those important colonies will continue to be developed, and great advantage must necessarily arise to the trade of the mother country.

In the report presented to the proprietors at the commencement of the year just closed, it was stated that a sum of 10,915*l.* 5s. 6d., being the estimate for loss by bad and doubtful debts, remained as a probable charge upon the balance of undivided profits. Some additional loss has also since arisen; but the directors have deducted from the profits of the year a sum equal to the whole of this estimate; so that the entire amount of undivided profit stated in the account now presented, remains clear and available in the hands of the bank.

The directors now proceed to submit their usual statement of accounts, the very favourable result of which enables them to declare a dividend at the rate of 6 per cent. per annum, on the entire paid-up capital of the bank, together with a bonus of 5s. per share, on the 32,000 paid-up shares, and the like proportion of bonus on the 2*l.* 10s. per share paid up on the 8000 shares of the third series, payable in London, free of income tax, on Tuesday, the 6th February; and in the colonies, with the additional 7d. in 1*l.*, as soon as the inspector shall fix, after receipt of advices.

*Union Bank of Australia, London, December 31, 1848.*

LIABILITIES.

| | | | |
|---|---|---|---|
| Bills payable | | £53,327 | 5 8 |
| Sundry balances | | 8,192 | 14 7 |
| Reserve fund (10 per cent | £59,666 13 5 | | |
| Profit and loss | 50,800 9 5 | 110,467 | 2 10 |
| Paid-up capital | | 820,000 | 0 0 |
| Total | | £991,987 | 3 1 |

ASSETS.

| | | | |
|---|---|---|---|
| Branch accounts (balance) | | £491,494 | 9 8 |
| Bills receivable | | 29,218 | 16 1 |
| Investments, Government stock, and loans on security | | 458,790 | 16 2 |
| Insurances and open policies, &c. | | 7,088 | 3 1 |
| Cash | | 6,394 | 18 1 |
| Total | | £991,987 | 3 1 |

STATEMENT OF PROFITS.

| | | | |
|---|---|---|---|
| Balance of undivided profit at June, 1848 | | £43,867 | 13 2 |
| To which are now to be added profits for the half-year, ending at the branches 30th June, and at the London office, 31st Dec. after deducting amt. estimated loss on bad debts £32,816 13 7 | | | |
| Deduct 10 per cent for reserve fund | 3,281 17 4 | 29,536 | 16 3 |
| | | £ 75,400 | 9 5 |
| Deduct Dividend paid at Midsummer, 1848 | | 24,600 | 0 0 |
| Balance of undivided profit at this date | | £ 50,800 | 9 5 |

RESERVE FUND.

| | |
|---|---|
| At June, 1848, as reported | £56,384 18 1 |
| Add to December, as per contra | 3,281 17 4 |
| Total | £59,666 13 5 |

The CHAIRMAN: With your permission, gentlemen, I will now read to you a statement of the results of last year, which will show how we have arrived at these profits:—

JANUARY, 1848.

| | | | |
|---|---|---|---|
| Balance of undivided profit at Jan., 1848 | £43,067 6 4 | | |
| Less dividend declared at that date | 24,600 0 0 | £18,467 | 6 4 |
| Charge resting on it, being estimate of bad debts, as reported at that date | | 10,915 | 5 6 |
| Leaving a net surplus of | | £7,552 | 0 10 |

JANUARY, 1849.

| | | | |
|---|---|---|---|
| Balance of undivided profits at this date | | £50,800 | 9 5 |
| Less dividend and bonus now declared | | 32,800 | 0 0 |
| Leaving a clear net surplus, free of charge for bad and doubtful debts, of | | £18,000 | 9 5 |

RESERVE FUND.

| | |
|---|---|
| At January, 1848 | £53,340 15 4 |
| At this date | 59,666 13 5 |

I hope this account will be considered satisfactory by the proprietors (cheers), but if any further explanation should be required, we shall be most happy to furnish it.

A PROPRIETOR desired to be informed what benefits had resulted from the opening of a branch bank in New Zealand?—Mr. CUMMINS (a director) replied that there had been a profit, but as yet a very small one. The Wellington branch had told very favourably, however, and was conducted remarkably well.

The question, that the report be received, was then put from the chair, and carried unanimously.

Mr. CUMMINS: Gentlemen, by the unanimous manner in which the report has been received, one important principle seems to be admitted, which confirms the directors in their views, that as a 6 per cent. dividend is a permanent dividend, it is a satisfactory one, and that the directors are performing their duty to you when the state of the accounts enables them to make a considerable addition to the reserves, and divide what remains, in the shape of a bonus on the shares (cheers). Looking forward then, as I trust we may, to increasing prosperity, we do feel that that principle has received the sanction of this meeting to-day (hear, hear); and I trust that on future occasions when we meet, the bonus will not be less than that now declared (cheers).

Mr. W. JAMES: One question which was mooted at the last meeting had reference to the establishment of a branch bank at Adelaide, and we were told that it was under the consideration of the board at that time. I had hoped, therefore, to hear that you had completed your negociations for the establishment of that branch, the town of Adelaide being one of the most important stations that we have in Australia (hear, hear).—Mr. CUMMINS: The position of that question is just this. The directors had determined to open a branch at Adelaide, but overtures were received from some of the proprietors of an existing bank in South Australia—at least, to this extent, that they wished to know upon what principles this bank was open to a union with the other banks in the colony. To this communication an answer was returned, stating the principles of the union that was formed at the establishment of this bank with a bank in Launceston. You will recollect that we adopted the "Tamar Bank," at Launceston, upon the principle of being open to form unions with any banks in the colonies, on terms that were fair and equitable. The directors have not, however, proceeded further with the establishment of a bank at Adelaide, in order to give those gentlemen the opportunity of conferring with their own directors. But in case no satisfactory conclusion is arrived at in these negociations, the inspector will immediately proceed to establish a branch bank there (Cheers.)—Mr. JAMES: I wish to put one question with regard to the "branch accounts," which I perceive stand at 491,494*l.* 9s. 8d. What is the nature of the securities? Are they considered available?—Mr. CUMMINS: The sum you mention is the amount of the bank's capital actually employed in the colonies.—Mr. JAMES: And all available securities?—Mr. CUMMINS: Perfectly.

Mr. R. HELME: I beg to move that the thanks of the meeting be given to the board of directors, for the able and satisfactory manner in which they have conducted the affairs of the company (loud cheers) With regard to the questions that have been asked respecting the nature of the investments, I beg to say that I have been at numerous meetings of the proprietors of other banks, and have never heard the directors give an account of what the investments were (hear hear).—The resolution was put to the meeting by Mr. Helme, and carried by acclamation.—The CHAIRMAN then acknowledged the vote of thanks which had been passed to the board of directors, who, he could assure the proprietors, were grateful for the confidence reposed in them, and whose chief care would continue to be to deserve it (cheers).—A vote of thanks to Mr. Wilson, for his conduct in the chair, completed the business, and the meeting broke up.

### AUSTRALIAN AGRICULTURAL COMPANY.

The annual meeting of this company was held at the offices, in King's Arms-yard, Coleman-street, on Friday, the 26th inst.,

J. S. BROWNRIGG, Esq., M.P., in the chair.

The report stated, that the company's stocks and herds for the year 1847, and the horses, ending 31st March, 1848, were as follows:—Sheep, 94,962; horned cattle, 7310; horses and ponies, 1085; asses and mules, 73. The sales of the company's live stock, in 1847, were—650 sheep; 50 horned cattle; and 19 pigs. The horses and ponies sold fetched 207*l.* 15s. 9d. The total number of persons on the company's establishment, exclusive of women and children, on the 31st December, 1847, was, in the agricultural establishment, 283 free labourers, and 85 ticket-of-leave men; in the colliery were 52 free labourers, 48 ticket-of-leave men, and 4 convicts. The quantity of coals sold, in 1847, was 88,122 tons, being an increase of 4143 tons over the year 1846.

During the past year, 466 bales of wool, the clip of 1847, had been received, and sold by auction, producing a net amount of 9774*l.* 10s. 10d., being at an average price of only 1s. 5¼d. per lb. Of tallow 221 casks, 858 hides, 637 horn-tips, and 2 casks of copper had been imported, producing a further sum of 2647*l.* 8s. 8d. In 1847, the revenue of the company in New South Wales was 15,780*l.* 19s. 5d., and that realised in England was 13,039*l.* 10s. 11d., making 28,770*l.* 10s. 4d., against which were the expenses of management at home and abroad, 27,913*l.* 0s. 1d.: leaving a surplus revenue of 1757*l.* 10s. 3d.

From this result the directors could not declare a dividend. They attributed the cause mainly to the low price of wool, which had diminished the company's revenue 25 per cent., and likewise to the general depression in the colony of the prices of live stock of all descriptions. The directors had instructed their commissioner, Capt. King, to visit this country, in order to give his assistance for promoting an extensive system of emigration to the company's lands, consisting of 1,000,000 acres, the title deeds of which they have just received from the Crown, free from all rents and reservations.

The CHAIRMAN having enlarged on the topics of the report, indulged in the hope that, at their next meeting, a dividend would be forthcoming. The directors and auditors retiring were re-elected, and the report was adopted, when the meeting adjourned.

## LITERARY NOTICES.

*Memoirs of the Literary and Philosophical Society of Manchester.* London: John Weale, 59, High Holborn.

We have before us the eighth volume of the transactions of the above society for 1846—the contents of which evince a progressing interest in the institution, and shows that it has lost none of its importance as compared with former years. Among the papers read before the society, during the year, are several highly interesting, in a geological point of view—such are "An Essay on some of the Microscopical Objects found in the Mud of the Levant, and other Deposits, with Remarks on the Mode of Formation of Calcareous and Infusorial Siliceous Rocks, by W. C. Williamson, Esq.;" "On the Origin of Coal, by E. W. Binney, Esq.;" "Sketch of the Drift Deposits of Manchester and its Neighbourhood, by the same;" "On Water from Peat and Soils, by R. A. Smith, Ph. D.;" "Analysis of a Saline Spring in a Lead Mine, near Keswick, by T. Ransome, Esq.;" and "A Glance at the Geology of Low Furness, Lancashire, by E. W. Binney, Esq." These we shall have occasion to notice severally in future Numbers; and, on the present occasion, take a cursory view of the general contents of the volume, *seriatim.*—1. "On Some of the Microscopical Objects found in the Mud of the Levant." This is a highly interesting treatise on infusorial microscopic insects and plants, by W. C. Williamson, Esq., as relative to most of the vast sedimentary deposited rocks of which the earth's crust is composed. Various hypotheses had been advanced and received, or objected to, according to men's various views, until, in 1835, Ehrenburg startled the scientific world by the announcement, that there were in existence rocks composed wholly and entirely of the fossil remains of animals, so minute that 40,000,000 would only occupy the space of a cubic inch; and, in 1839, he stated to the Royal Academy of Sciences at Berlin, that the common white chalk, in many localities, contained vast numbers of silicious infusoria, of five or six species, beside polythalamia—microscopic chambered shells, then supposed to be minute cephalopoda. Many scientific men of all the states of Europe, as well as America, now followed up the investigation. Ehrenburg's suggestions were found to be correct; and it has now arrived at a stage which renders it a most important portion of the science of geology. Mr. Williamson's essay shows that he has long devoted his mind to the subject, and is replete with interesting facts and geological research. No less than 26 of these minute organisms, in the most grotesque forms, are beautifully figured in copper-plate engravings; and the essay runs over an extent of 132 8vo pages.

Mr. T. Hopkins's paper on "Barometric Disturbances at Bombay" is the result of much attention paid to atmospheric phenomena, but relates to perfectly local circumstances. "On the Origin of Coal," by E. W. Binney, Esq., is a highly interesting paper, in which the author endeavours to show that the vegetable origin of coal being fully established, where the plants of which the coal is formed grew, and how the strata in which it is found were deposited. Assuming, as is now generally by geologists, that the level of the ocean was always permanent, whatever variations may have taken place in its bed, the author directs attention to the constant evidence of subsidences in the bed of the ancient ocean, from the commencement of the protozoic rocks, up to and including the new red sandstone formation; and points out some of the great intervals of repose, which have at times interrupted such subsidences. After an elaborate investigation into the various beds of coal, shale, clay, rock, ironstone, &c., he concludes that coal must have been formed of the vegetables which grew, during these periods of repose, principally in water; that after the growth of these vegetables the subsidence must have been very slow and gradual, to allow for the decomposition of all vegetable matter, and the existence of the animals whose fossil remains are found there; that all the instances he has advanced prove the existence of *land covered by water*, but no *dry land*, and that sufficient evidence has not been given to prove that all the plants, of which the coal was formed, grew on the spot; but that sigillaria, with the root stigmaria, forming the larger portion of our coal measures, grew on the spot were they are found, the root being found *in situ.* The remaining geological papers we shall return to at another opportunity. There is an interesting paper on a voltaic battery of high power, in which potassium forms the positive element, to which we may again refer. Papers on thermo and mechanical electricity, several on the aurora borealis, and various branches of the mathematics, and the volume concludes with one by Edward Holme, Esq., M.D., on the progress of Sculpture to the time of Phidias, which evinces a great depth of classical and ancient reading and research. The geological papers we shall return to in our next.

*South Australia: its Advantages and Resources.* By GEORGE BLAKISTON WILKINSON. London: John Murray, Albemarle-street.

We have lately perused this little work—the writer of which, in his preface, modestly states that, though the book is in a rough dress, he trusts it will not hinder its doing good service to all classes of those who need it—that he never expected to assume the character of an author; and his leading motive has been to proclaim to thousands and tens of thousands of his poor countrymen, and to the British Government, from seven years' experience, gathered in the colony, the capacities and kindliness of the new home which awaits all those who wish to emigrate to the splendid country and exquisite climate of South Australia. The work embraces the history of the colony from its first settlement until the commencement of last year, and is written in a plain, easy style, suited to the comprehension of those for whom it is principally intended. Detailed accounts of the agricultural, cattle and sheep farming, prices of provisions, state of markets, and prospects of emigrants, together with the method of treating and raising various trees and plants—both indigenous and foreign to the climate—are fully and usefully given. The mining information, although the greater portion has at different periods appeared in our columns, will be read with great interest; annexed to this is a table of the different earths, minerals, and metals found in the colony, classified and arranged by Mr. Burr, the deputy surveyor of the colony. An interesting and spirited account is given of the habits and customs of the aborigines. The wild animals of the colony, together with the methods pursued in hunting them, and their destructive habits, particularly those of the wild dog, are admirably and concisely treated of. The regulation of the Government emigrant ships, as well as the rations allowed on board, and requisites for emigrants, are likewise published. At this time, when public attention is so much directed to emigration, especially in this quarter, and where, according to the author, there ap

pears so much real want of labour, we cannot but recommend the perusal of this little manual, both to the miner, artisan, and agriculturist, who intend settling there; and it will be found interesting to those who have kin and kith in this distant and rising colony.

*Harbours of Refuge.—The Sea Wall Question Analyzed and Practically Resolved, by a Principle applicable to all Marine Structures.* By W. H. SMITH, C.E. London: Longman and Co., 1849.

The vast importance, the palpable necessity of an economic and efficient plan for the general construction of harbours of refuge around our coasts is evident, from the expressed opinions of the most eminent Members of both Houses of the Legislature, officers of the Navy, and mercantile, marine, and civil engineers. It has been long known, and repeatedly published, that there are annually lost to the British public, by shipwreck on our coasts, more than 3,000,000*l.* sterling, and 2000 lives sacrificed. The pamplet under notice states the startling fact, that the entire coast of Great Britain requires protection; while millions have been spent on the Plymouth breakwater, and are proposed to be spent on a sea wall of solid masonry at Dover, neither of which can ever give the necessary security. That from the Frith of Forth, to the mouth of the Thames, there is not one perfect harbour; they are all tidal, and therefore accessible only during certain periods of the tides. That the annual amount of shipwrecks is on the increase, would appear from the awful facts, that at Redcar, in three gales, 67 vessels were totally lost, the greater part, or probably the whole, of which might have been saved, had there been proper protection within reach. In another case, 39 vessels were all on shore at one time, and the entire crews of 20 *totally perished*. The author states, that the plan he proposes will remedy this glaring evil. That solid structures of massive blocks of stone have, in most cases, proved most signal failures is clear, from the facts of Cherbourg, Plymouth, Kingston, Donaghader, Portrush, Dunmore, Ardglass, and numerous others; while even the trumpet-mouthed weed of the Cape of Good Hope, *laminaria buzinalis*, growing to the height of 20 or 30 ft., effectually breaks up the waves in a storm, and large ships take effectual and secure shelter behind it—a clear proof, that if the engineer would be successful, he should follow Nature, and erect some more yielding structure than solid masonry. Major Parlby, we remember, some years since, proposed a breakwater of India-rubber trumpet shaped hollow cones, in imitation of those formed by this singular but natural production. The author's plan proposed is a pier running out from the shore, having a gangway on its top; the top supported by yielding braces of iron, encased in timber, and the sheeting piles by simple iron braces, projecting inwards at an angle of about 45°, having counterbalance weights lying on the bottom of the harbour, from which proceed other iron braces, securely fastened to mooring blocks, sunk of sufficient depth to withstand any pressure. These counterbalance weights lie flat on the bottom, until the pier is struck by a wave, when they immediately rise, and spring before the shock, at first yielding freely, but gradually increasing their resistance, until before drawn taut, would withstand a blow equal to upwards of 2000 tons. The sheeting piles are secured to screw piles by links, in such manner that they are allowed the necessary motion, and, at the same time, owing to the pull from above, there is a bearing down of the pier on the screw pile. By the general arrangements, all the shocks are either avoided directly, or thrown downwards upon the solid floor of the sea, so that there is no pressure upon the link joint, as the whole structure rests upon the braces and knees which project from it. The plan is exceedingly practicable, simple, and economical, and is well worthy the most careful attention of the proper authorities.

*Uniformity of Railway Accounts. A few Remarks, Elucidatory and Suggestive, on the subject of Railway Economy; also, Proposal of a Method of Keeping Railway Accounts on one Uniform Plan, and of Closing Capital Accounts, in a Way that shall not encroach unduly upon present Dividends.* By GEORGE KING (late secretary of the Chester and Holyhead Railway). London: E. F. Gooch, 55, King William-street.

This is a long title for a pamphlet of little more than 80 pages; it is, however, no more than explanatory of the contents, which are on a highly-important subject, taking into consideration the present mode of conducting the accountant departments of our great railway establishments. We have always contended that, although these accounts must of necessity be multifareous, they need by no means be complex; but, like bankers, or any other large trading firms, they might be conducted on one uniform system, that a balance might at any time be struck, showing the company's financial position, and this the more particularly after nearly 20 years' experience in all the details of railway economy, and every item of receipt and expenditure well known. In his preface the author, in describing his reasons for the publication, says—"Some work of this kind has become necessary, if for no other purpose than to make more generally known, and lead, as I would hope, to a correction of certain vicious principles daily becoming more and more common, which affect not the interests only, but the very character of some of these undertakings." And again, "The want of a uniform system of accounts, and the desire on the part of the executive to represent to the directors, and the directors to the shareholders, everything in as favourable a light as possible, considering only the present, and regardless of its effect on the future, have, acting together, been the bane of railways; and will in a short time, if the same course continue to be adopted, render the original shares in some of these undertakings utterly valueless. Working charges have at all times been dealt with most tenderly and partially; it has been the cause of the 'maintenance of way' being charged for a certain period after the opening of the line to capital instead of revenue account. Increase of capital then brings an increase, as it were, in the shape of interest; the working establishment undergoes reduction both in numbers and pay; public security dwindles to a *minimum*; the wages of the servants to that point which just renders them careless whether they retain their situations or leave them; and thus the liberal spirit which should actuate a corporation is degenerated into the niggardliness and pitifulness of a petty shopkeeper." After laying down a simple formula for the Dr. and Cr. account in every department of a railway, he proceeds to lay before the public a statement of double dealing, public wrongs, and anomalies of the most glaring kind, every day perpetrated by railway directors, the enormous salaries some of the *professional* directors obtain; and the whole exhibits a system, although perfectly true, of such gross mismanagement which shareholders have to pay for, that common sense must designate them, as a body, the greatest set of gulls to put up with it, which are to be found in the history of humbug. We recommend every one of them to get a copy of this pamphlet, and to "mark well, learn, and inwardly digest it."

*The Gold Regions of California; a Geographical, Topographical, and Historical View of that Country, from the Official Reports presented to the American Government by* Col. MASON, Brigadier-General JONES, Lieut.-Col. FREMONT, *&c.: with exclusive Authentic Particulars, and a coloured Map of the Country.* London: Baily Brothers, Exchange-buildings, Cornhill.

This little work is, as its title imports, one of the many already published on the valuable and enticing discoveries in that hitherto unexplored region of the far west—California. It, however, takes a higher place than most of them which have hitherto appeared, giving, in addition to the official reports which have already appeared in the daily and weekly press, a true and unexaggerated state of the case, for the guidance of those bitten with the gold fever, as well as to turn the attention of parties wishing to emigrate to the magnificent agricultural and mining resources of this prolific region. Extracts from the best recorded facts, as related by travellers, missionary priests, and others, are given at full, and which enable the reader who has the slightest knowledge of the western geography of the great continent of America to form a tolerably correct idea of its wide deserts, its lofty and often impassable mountains, and its immense resources, both in an agricultural and mineral point of view. Nor must it be supposed that the lately discovered gold region of Upper California is alone noticed—the whole of the country just ceded to the United States comes under complete review; the utter sterility of some portions, the prolific bounty of others, its fisheries, in both seas and rivers, are all recorded from authentic resources. As far as the healthiness of the climate is concerned, we give the following extract:—"No one who has ever investigated the subject at all requires to be told that the whole Pacific coast, west of the Rocky Mountains, is the healthiest part of the globe, and that climatic and epidemic disease are there unknown. Those who have been all their lives accustomed to connect the idea of yellow fever with everything south ought to be told, that there never was a case of yellow fever, or fever and ague, or any similar disease, known west of the Rocky Mountains, and that the Californias are at least as healthy as New England, while that dreadful scourge, *consumption*, is unknown in these southern possessions." The whole is a concise and well got up history of this extraordinary region; and not only to the intending emigrant, but to every reader fond of geographical and natural detail, the work will prove important and interesting.

## CONTRACTS FOR IRON.

At the Court of Bankruptcy, on Wednesday, in the case of Donald Maclean, a claim for 4000*l.* was tendered by Mr. Bovill on behalf of Messrs. Bolckow and Vaughan, ironmasters, Middlerborough-on-Tees, Durham, with whom the bankrupt had entered into a contract for 4000 tons of railway bar-iron, none of which, however, was delivered. The price was fixed at 12*l.* 12s. 6d. per ton, and according to the agreement it was to be delivered free-on-board vessels or upon railway waggons, on or before the 1st of November, 1846, and not later than the 1st of February, 1847, and to be completed at the rate of 400 tons per month; the rails to be paid for in cash, with or without discount, on the delivery of each parcel. The buyer further agreed to pay, as deposit, 11,500*l.* For the latter amount the bankrupt gave his acceptances to the vendors, and it is in respect of two of these acceptances that the present claim was made.

Messrs. Bolckow and Vaughan state the foundation of their claim to be the fall in the price of iron between the months of February and November, 1846, being no less than 6*l.* per ton, and they allege that, in order to perform their part of the contract, they in the former month entered into another contract, at a very high price, with different persons, for the supply, and that they have to pay the difference in the price.

Mr. BOVILL contended that his clients would have had a clear right of action against Donald Maclean in September, 1846, supposing he had not become a bankrupt before that time, if he had not provided for his acceptances, and that he could not have resisted such action on the grounds that the iron had not been delivered, or that there was no consideration for the bills, inasmuch as the contract was of itself sufficient consideration, and that the vendors had not made any default in the performance of their part of it.

Mr. COOKE resisted the claim, on the ground that the bankruptcy put an end to the contract; that the assignees could not be compelled to perform it, nor could they compel the vendors to execute their part of it; that if there had been consideration for the bills, inasmuch as the contract ended with the fiat, the bills could not be proved against the estate, as the contract was the only consideration, for there had been no delivery of the goods; and, finally, that the claim was in the nature of unliquidated damages, which ought to be ascertained, and determined by the verdict of a jury.

The COMMISSIONER said the claim was in the nature of unliquidated damages, and therefore could not be proved.

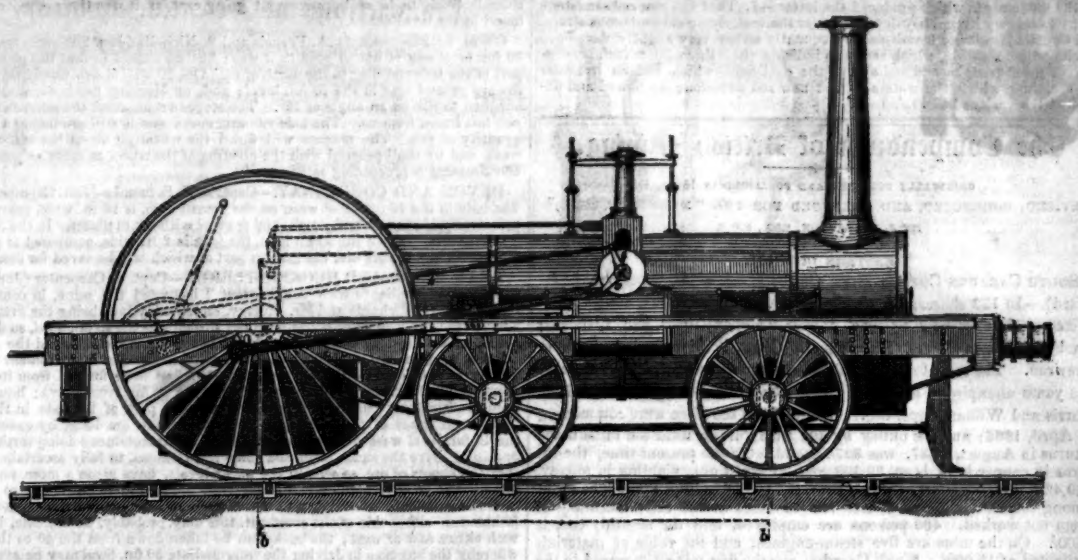
Mr. BOVILL applied that the dividend might be stayed until the question was decided by another tribunal.

His HONOUR acceded to the application, on the condition that the claimants would undertake to commence proceedings within a month.

Claims to the amount of about 12,000*l.* depend upon the decision in this case.

NEW COAL FIELD.—We are informed that it is intended to open coal-fields in the neighbourhood of this city, well known to contain immense beds of superior coal, and which, as it can be conveyed into the port by water, will, no doubt, be in demand for export.—*Bristol Mirror.*

## JOHNSON'S PATENT LOCOMOTIVE ENGINE.

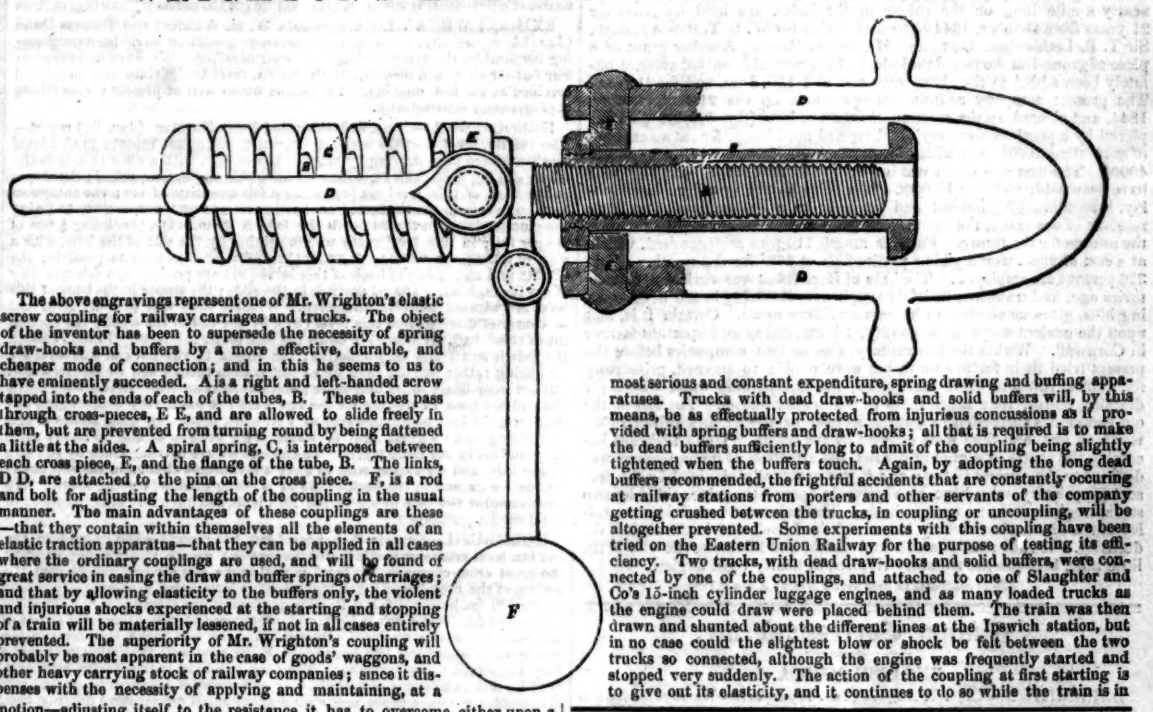


The prefixed engraving represents a side-elevation of a narrow gauge locomotive-engine, in which figure my improvements relating to the position of the driving-axle, form of fire-box, and valve gearing for admitting steam into and out of the steam cylinders, and reversing the motion of the engines, are exhibited. The driving axle, *a*, instead of being placed as usual under the cylindrical part of the boiler, or at the extreme ends of the engine, is placed over the top of the fire-box. This position of the driving axle possesses the following advantages:—1. The admitting of driving wheels of 8 feet diameter, or more, to be applied on the narrow gauge.—2. An increased steadiness of engine in working, by bringing the centre of weight considerably nearer to the line of road.—3. The extreme centres, *b b*, of the wheels are also lessened, by bringing the driving axle more forward than the end of the fire-box.—4. The increased heating surface, obtained by having tubes longer than can be used in ordinary engines, having the same length of extreme centres.—5. The increased traction of the driving-wheels upon the line of road, having a greater proportion of the weight of the engine upon them than can safely be applied to engines, having driving-wheels in the centre of the engine, and—6. The oscillating motion of engines running at high speeds is lessened—a greater proportion of the weight of the engine being thrown upon the extreme wheels than is the case with driving-wheels placed in the centre of the engine.

The form of the fire-box represented possesses the advantages of a great saving in material and workmanship, and of being such as to render the upper portion, "hitherto the weakest and least capable of sustaining the required pressure of steam," as strong and as firm as any other part of the fire-box or boiler.

The apparatus for admitting steam into and out of the cylinders, and reversing the motion of the engines, is worked from the crank pin, *o*; and through the coupling rod, *d*, and crank, *e*, it communicates to the valve-shaft, *f*, a rotary motion, simultaneously with the driving-axle, *a*; *g* is the reversing lever, to which the required motion is given by the engine-man, through the intervention of the coupling-rod, *h*, and levers, *i*, *j*. The advantages of this construction of apparatus for effecting the reversing of engines, and admitting steam into and out of the steam-cylinders are—1. Economy in construction; an extremely simple arrangement of machinery being substituted for the four eccentrics, rods, levers, and other complicated apparatus, now used for effecting the same results.—2. Economy in working, the parts being few in number, and not liable to the same disarrangements as the valve gearing now in use.—3. Ease of access to all the parts, for cleaning and repairing, and also for superintendence whilst at work, and—4. Economy in fuel—the exhaust side of the piston being open to the action of the atmosphere for a greater portion of the stroke than can possibly be obtained by the side-valve gearing.—W. B. JOHNSON, Engineer: Liverpool.—*Mechanics' Magazine.*

## WRIGHTON'S ELASTIC SCREW COUPLING.




The above engravings represent one of Mr. Wrighton's elastic screw coupling for railway carriages and trucks. The object of the inventor has been to supersede the necessity of spring draw-hooks and buffers by a more effective, durable, and cheaper mode of connection; and in this he seems to us to have eminently succeeded. A is a right and left-handed screw tapped into the ends of each of the tubes, B. These tubes pass through cross-pieces, E E, and are allowed to slide freely in them, but are prevented from turning round by being flattened a little at the sides. A spiral spring, C, is interposed between each cross piece, E, and the flange of the tube, B. The links, D D, are attached to the pins on the cross piece. F, is a rod and bolt for adjusting the length of the coupling in the usual manner. The main advantages of these couplings are these—that they contain within themselves all the elements of an elastic traction apparatus—that they can be applied in all cases where the ordinary couplings are used, and will be found of great service in easing the draw and buffer springs of carriages; and that by allowing elasticity to the buffers only, the violent and injurious shocks experienced at the starting and stopping of a train will be materially lessened, if not in all cases entirely prevented. The superiority of Mr. Wrighton's coupling will probably be most apparent in the case of goods' waggons, and other heavy carrying stock of railway companies; since it dispenses with the necessity of applying and maintaining, at a most serious and constant expenditure, spring drawing and buffing apparatuses. Trucks with dead draw-hooks and solid buffers will, by this means, be as effectually protected from injurious concussions as if provided with spring buffers and draw-hooks; all that is required is to make the dead buffers sufficiently long to admit of the coupling being slightly tightened when the buffers touch. Again, by adopting the long dead buffers recommended, the frightful accidents that are constantly occuring at railway stations from porters and other servants of the company getting crushed between the trucks, in coupling or uncoupling, will be altogether prevented. Some experiments with this coupling have been tried on the Eastern Union Railway for the purpose of testing its efficiency. Two trucks, with dead draw-hooks and solid buffers, were connected by one of the couplings, and attached to one of Slaughter and Co's 15-inch cylinder luggage engines, and as many loaded trucks as the engine could draw were placed behind them. The train was then drawn and shunted about the different lines at the Ipswich station, but in no case could the slightest blow or shock be felt between the two trucks so connected, although the engine was frequently started and stopped very suddenly. The action of the coupling at first starting is to give out its elasticity, and it continues to do so while the train is in motion—adjusting itself to the resistance it has to overcome, either upon a straight or curved road. The buffers open for a little distance—varying from 1 to 3 inches, according to the gradients, weight of the train, inequalities in the road, &c.; but immediately the steam is shut off, they come gently together without any perceptible shock or concussion.

## NEW RED SANDSTONE AND COAL MEASURES OF LANCASHIRE.

Having recently inserted several communications on the subject of the continuance of the Lancashire coal-field beneath the new red sandstone, we now avail ourselves of a paper read at the Manchester meeting of the British Association, by E. W. Binney, Esq., of Manchester, which enters most fully into the relation of the new red sandstone to the carboniferous strata of Lancashire and Cheshire; the document is of too great a length to insert entire, but an abstract of it will convey a tolerably accurate idea of the strata.

GENERAL DESCRIPTION OF THE LANCASHIRE COAL-FIELD.—The carboniferous strata, commonly known by the name of the Lancashire coal-field, occupies the chief part of the southern division of the county of Lancaster, and extends into adjoining portions of the counties of Chester, Derby, and York. Coals have been worked from near Macclesfield to Colne, a distance of about 46 miles north and south, and from Tarbock to Todmorden, about 40 miles in a line from W.S.W. to E.S.E. The latter, however, is by far the greatest width of the field, and much exceeds its average, for in the southern part there is not more than a mile in horizontal distance from the upper new red sandstone to the millstone grit. The area of the field might indeed be extended over considerable portions of the moorlands of Cheshire, Derbyshire, Yorkshire, and Lancashire, occupied by millstone grits, but I have only noticed the country lying between points where collieries are now or have been in operation, not including the two small seams of coal which sometimes, but not always, occur between the first and second millstone grits. The last-named deposit is the lowest rock of what in this coal-field may be truly termed the carboniferous (coal-bearing, strata, and can be confidently assumed as their lowest boundary, although it is well known that elsewhere in England, as well as in Scotland and Ireland coals are found lying at great depths below them. The limestone shales of Roecross, Tintwistle beyond Mottram, and those of Pendle Hill near Burnley, are taken as the base of the deposit, and full 6600 feet of strata, terminating with the red clays lying above the limestones of Ardwick near Manchester, and containing about 120 different seams of coal, have been ascertained. How much more lies under the new red sandstone remains yet to be proved. This outline shows the coal-field in question to be the most perfectly developed of any in England, and therefore admirably adapted for investigating the true upper boundary of the carboniferous strata.

Most persons, on inspecting the Lancashire coal-field, are surprised at the long narrow tongues of upper new red sandstone which run into it. These are generally deep down throws of the coal measures, which have been filled up with sandstone; their direction is most frequently towards the north and north-west, but there is one at Collyhurst, near Manchester, which runs a little east of north: wherever they are found on the rise of the mine, it may be taken as a general rule that the measures have been thrown down, although the sides of the fault, from having long been acted upon by the water which deposited the new red sandstone, give no indication as to whether the dislocation was up or down. The Lancashire coal-field having been compared with that of Yorkshire and Derbyshire, and having been proved to be continuous with it, we are justified in concluding from analogy, that not only is the North Welsh deposit similarly connected, but that those of Shropshire, Staffordshire, and Leicestershire, as well as that of Cumberland, are but the outcrops of one vast coal-field lying under the new red sandstone formation. There is great difficulty in distinguishing the lower new red sandstone from some of the rocks of the upper part of the carboniferous series, for which it has, no doubt, often been taken. In Lancashire no fossils have hitherto been found in the first-named rock. This is also the case with several of the upper sandstones of the coal-field. The lower sandstone is, however, generally composed of particles of silica, with some few pieces of a mineral resembling jasper, much more feebly cemented together, and having far more of a conglomerate character than any sandstone in the upper coal-field. Its grains also have a slighter coating of oxide of iron around them, are larger and much more angular and contain amongst them few, if any, of the large rounded pebbles so common in the upper new red sandstone. It varies greatly in colour, being sometimes of a deep red, but occasionally dirty green or dull drown, and its thickness can never be estimated with any certainty for a considerable distance.

Between Liverpool and the Irish Sea, few, if any, searches for coal have been made; but if the upper new red sandstone can be found cropping out to the west, there is every reason to believe that coals will be met with under it. On the other hand, if the sandstone west of Liverpool is found dipping westward, the coals will be at a great depth.

After having observed the facts detailed in the foregoing paper, the autho- has arrived at the following conclusions:—1. That although the Lancashire coal-field is 6600 feet in thickness, and is probably the most perfectly developed coal-field in England, still it has never been seen to graduate upwards into the new red sandstone, and, consequently, that its upper boundary must be considered as unascertained.—2. That on comparing the Lancashire coal-field with that of the south-west of Yorkshire and Derbyshire, the latter exhibits a deficiency of 837 yards of the middle and upper measures.—3. That the new red sandstone formation is found resting upon coal-measures of all ages, and scarcely ever at different places on rocks of the same age, so that it cannot with propriety be said to bound, but only to cover them.—4. That where coal measures have been found on their rise outcropping against the new red sandstone, the latter bed, so far as has been yet proved, always indicates that the coal measures exist beneath it, but that the dislocation is of great extent.—5. That in all cases where seams of coal have been followed on their dip under the new red sandstone, they have been found to continue under it, without any perceptible difference either in their inclination or quality.—6. That the dislocations in the coal-fields may be classed under two heads—namely, the older ones, produced before the deposition of the upper new red sandstone, and the newer ones which have been produced since, but that the former have been in some degree affected

by the movements which produced the latter.—7. That the new red sandstone formation is very irregularly deposited over the underlying carboniferous strata, and that its two lower members are frequently either very slightly developed or altogether wanting, which seems to indicate that these lower members reposed in great troughs and hollows of the coal-field, which had an irregular surface, over which the waters of the new red sandstone sea flowed and deposited the various beds.

## The Compendium of British Mining.

ORIGINALLY COMPILED AND PUBLISHED IN 1843.

REVISED, CORRECTED, AND ENLARGED FOR THE "MINING JOURNAL,"

BY J. Y. WATSON, ESQ., F.G.S.

### EASTERN DISTRICT.

SOUTH CARADON COPPER MINE (in the parish of St. Cleer, near Liskeard).—In 128 shares; 5*l.* per share paid. Market value, 400*l.* Conducted on the Cost-book System. Purser, Thomas Kittow, Esq., Liskeard; manager, James Clymo, Esq.; agents, Capts. William Rule and Oliver Trewren. The extent of sett is about one square mile, and held on lease (18 years unexpired) at 1-18th dues—the lords being the Rev. G. P. Norris and William Jope, Esq. Operations at the mine were commenced in April, 1836; and the outlay by the adventurers, until the mine made returns in August, 1837, was 327*l.* 8s. 5d. To the present time, the returns in copper have been 39,328 tons 3 cwts. 2 qrs., yielding in money, 260,426*l.* 11s. 3d.—out of which sum 61,710*l.* have been divided as profit among the shareholders. There are 15 lodes in the sett; but many of them not worked. 400 persons are employed, and the monthly cost is 1500*l.* On the mine are five steam-engines; and the value of materials estimated at 15,000*l.* South Caradon was the first mine discovered in the Caradon district, where, until 1836, mineral wealth was unknown to exist; and, as in all cases of exploring untried ground, great difficulty was experienced in getting parties to join in the speculation, even after ore had been found. All the workings are in the Caradon Hill, which is 1208 ft. high. It was originally supposed, from the number of costean pits and old tin works in the moors around, that tin might be found in the hill; and an exploratory adit (like tapping the mountain) was driven into it, and which coming at last upon a lode containing indications unfavourable for tin, scarcely any one would join the Messrs. Clymo's, who had obtained the sett, in working it further. One of them tried London, about 1837, without success; and, in returning by the mail, offered a gentleman, in Albemarle-street (who had then a large interest in Cornish mines), half the mine—32-64ths, at 5*l.* each. They were refused by the party, and were, in a few months, worth 2000*l.* each! For the Clymos persevered by themselves, and were soon rewarded by the discovery of three rich copper lodes; and for some years made profits of 10,000*l.* a year. A railway has been made at considerable expense through the Caradon district, and by which the ores from the mines are carried to the shipping place.

HERODSFOOT LEAD MINE (in the parishes of St. Pinnock and Lanreath, about four miles from Liskeard, and six from Looe, from which port the ores are shipped).—Conducted on the Cost-book System. In 256 shares; 27*l.* paid; market value, 24*l.* Purser, William Davey Bonse, Esq., Liskeard; agents, Capts. Medlen and Peter Dunstan. The setts, which are nearly a mile long on the course of the lodes, are held on lease for 21 years from October, 1844—the lords being Sir W. L. Trelawney, Bart., Sir T. B. Lethbridge, Bart., and Mr. Robert Rowe. Another grant of a piece of ground on the run of the lode, and of great value on that account, has lately been added to the above setts, also at 1-15th dues, and for 21 years. The present company commenced operations on the 21st of October, 1844, and cleared up the mine to the 52 fm. level (the deepest part explored by a previous company), and erected machinery, &c., at an expense of more than 2000*l.*, and which has lately been increased to the extent of 4000*l.* The first sale of ore was in Sept., 1846, and, to this time, 1186 tons have been sold, yielding 13,000*l.* The mine having now, by a large outlay, been thoroughly opened and explored to a 106 fm. level, and large reserves of ore made, the agents will be in a position greatly to increase the returns for the future. For this month 110 tons are promised, which, at a cost of 900*l.*, would yield a profit of about 300*l.* for the month. About 326 persons are employed. The lode of Herodsfoot was worked upon centuries ago, and tradition, fruitful enough as to its riches in the neighbouring hills, gives us no clue to its extraordinary name. Certain it is, that upon the ancient maps of the county, it is marked as an important feature in Cornwall. Within the last century, one or two companies before the present tried their fortune on it, but were unable to succeed, principally for want of funds to erect machinery; for, having only water-wheels for draining power, they failed them in the winter season. The last of the old companies succeeded in getting as deep as the 52, and raised 7000*l.* worth of ore, and then were stopped by the water. Upon Liskeard becoming the centre of a mining district, the attention of many persons was directed to the ancient Herod; and it was eventually obtained by the present proprietary, who have so vigorously opened the mine, aided by two steam-engines and two water-wheels. The lode runs parallel to the valley of the Herodsfoot river (a branch of the Looe), and in the side of the declivity. It runs nearly north and south, and intersects the foot of the little hills, between the tributary rivulets, at nearly right angles.

*[To be continued in next week's Mining Journal.]*

## Mining Correspondence.

### ENGLISH MINES.

BARRISTOWN.—Capt. T. Angove (Jan. 19) reports—We have no lode in either the adit or the 16 fm. level ends at present; in the adit end we have a slide, which we have driven 2 fms. through, and the ground is very much broken in the present end; in the 16 fm. level end we are driving south, to cut the lode to the east of the slide; the winze, sinking in the bottom of the adit level, is producing about 8 cwts. of lead per fm.; in the stopes, in the back of the 16 fm. level, the lode is large, producing about 6 cwts. of lead per fm.; the pitches, in the back and bottom of the adit level, look much the same as heretofore; and our monthly raising at present is 20 tons.

BEDFORD UNITED.—Capt. James Phillips (Jan. 24) reports—At Wheal Marquis, the ground in the 103 fm. level south continues favourable for driving The ground in the 80 and 90 fm. levels is somewhat improved. In the 70 fm level east the lode is 18 inches wide, composed of spar, mundic, and ore. The pitches continue to yield good returns. We are busily engaged getting the shaft in order for drawing by the whim, which we hope to put to work in about a fortnight.

CALLINGTON.—Captain J. T. Phillips (Jan. 15) reports—We have just commenced sinking the north engine-shaft below the 112 fathom level, cross-cutting towards the lode in this level, the ground is rather hard. In the 100 fm. level south no lode has been taken down. In the 90 fm. level south we are opening tribute ground. In the 90 fm. level east the lode is near 3 feet wide, composed of peach and mundic, with stones of copper ores. In the 70 fathom level east the lode is small and unproductive; the ground is still easy for driving; in the winze below this level the lode is poor; the stopes in the back of this level will produce about 2 or 3 tons of ores per fm. At the count-house shaft we have fixed penthouse, and are now prepared for sinking below the 80 fm. level. Kelly Bray engine-shaft is sunk about 5 fms. below the 20 fm. level; the lode is disordered, producing stones of copper ores. In the 20 fathom level east the lode is rather small, of a promising character, producing copper ores. At the south mine, in the 125 fathom level south, the lode is split into branches, producing silver-lead ores; in the back of the north end we have commenced a rise, for the purpose of ventilating this part, and laying open the ground to work at tribute. In the 112 fm. level, both north and south, we are opening tribute ground. In the 100 fathom level north we have cut a small branch. In the 90 fm. level south the lode is small. In the 70 fm. level south we are opening tribute ground. In the 40 fathom level south the lode is small and unproductive.

CARADON COPPER.—Capt. J. Seymour (Jan. 24) reports—By request of some shareholders in this mine, I have this day inspected the lodes being explored in the 30 fm. level. I have no interest, or any sinister end in view, in giving a public report of this mine; but feeling interested in the welfare of those shareholders who have embarked in the undertaking, I have carefully examined the mine, and report accordingly. In a former report, I said I was surprised to see so many large lodes, and such a congenial strata; that the whole was strongly mineralised, and the lode in the shaft spotted with copper throughout. I am happy to say that the north lode is greatly improved from the 20 to the 30 fm. levels, and fully warrants the necessary outlay to develope it at a still deeper level, and I think a 40 or 50-inch cylinder engine should be erected for this purpose. The north lode is from 4 to 5 ft. wide, composed of sugary spar, quartz, peach, flookan, prian, and bunches of copper ore. I have nothing particular to say as to the south lode as far as it has gone, but there is likely to be an improvement going east, as it was there copper was found in the level above.

CWM ERFIN.—Capts. A. Francis and S. Nicholls (Jan. 20) reports—Our 20 fm. level east is not so good as it was; but we expect to find the principal part of the lode standing to the north of us. Our 20 west is now nearly through the ore ground seen in the 10 fm. level; and, on Monday next, we shall put our men to rise on an angle of 45°. The stopes are all much the same as when you last heard from us. The lode running north-east is still producing a good quantity of ore. The masons will finish the wheel-pit about the end of the week, and we shall proceed with the erection of the wheel as early as possible. Our dressing is proceeding satisfactorily.

DEVON AND COURTENAY.—Captain N. Seccombe (Jan. 23) reports—The lode in the 40 fm. level west, on the gossan lode, is 18 in. wide, composed principally of mundic and peach, and spotted with ore in places. In the 50 fm. level, driving east, on the south lode, the lode is 2 ft. wide, composed of mundic, peach, and copper ore, the greater part of which will be saved for dressing.

DEAN PRIOR AND BUCKFASTLEIGH.—Capt. J. Carpenter (Jan. 25) reports—In compliance with your request, I inspected the mine, in company with Capt. W. Richards and Mr. Murray, on Tuesday last, being the first time I have seen the lode since it has been cut through in the 40 fm. level, so designated, under the deep adit; although it has continued its size, and the walls are very regular and well-defined, I am sorry to say the improvement in its quality is not equal to the anticipations that had been formed from its appearance in the 30 fm. level, compared with the 20 fm. level above; however, from the apparent change of strata on the south part of the lode in the 40, I entertain hopes of the lode being more productive ere long, by extending the 40 fm. level west on its course, which I should recommend doing forthwith, as also to drive the same level east some few fathoms, to fully ascertain whether the shoots of ore, as seen in the upper levels, have made a more perpendicular dip, or otherwise overdidon between the 20 and 40 fm. levels, so as to give the cast more westerly; and the 30 fathom level being driven but a few fathoms on either side of the cross-cut, this may, probably, be the case, if met with either east or west; the backs can be taken down from the 40 to the 20, whereby the expense in driving the intermediate 30 fm. level may be avoided, and a communication be effected; also by opening the diagonal shaft for future operations, and in sinking the mine deeper, if prospects warrant, and give it a free ventilation. Messrs. Richards, Murray, and myself, thought it advisable to drive the 20 fm. level a little farther west, to see whether a change might take place in the lode in that direction; this work can be done at the same time, without incurring very material costs; should a discovery be made in this part of the mine, the machinery is fixed so as to commence the operations with pleasure.

EAST BIRCH TOR (TIN).—Capt. T. Moyle (Jan. 24) reports.—We are sinking the engine-shaft under the adit level, on the south lode, with all possible dispatch; the shaft is now down about 9 ft. under the adit level. The lode we are carrying down with us is 4 ft. wide, and will produce about 2½ cwts. of black tin per fm. We have not cut into the north wall of the lode; we shall not do so until we get a little deeper down, to avoid weakening the ground over the adit level. The old parties sunk the shaft, and left the lode to the north of them; but we find fine stones of tin in the north part of the lode, as far as we have cut into it.

EAST CROWNDALE.—Capt. S. Pauli (Jan. 20) reports—Thomas's lode, in Diamond's engine-shaft, is still poor, although its composition is precisely the same, tin excepted, as where we had the most productive lode in the mine; the adit level driving west, on the course of Thomas's lode, continues in a favourable ground, composed of peach, prian, spar, white iron, and tin on the north side, and killas, peach, and tin on the south side, worth about 30*l.* per fm.; the stopes, in the back of this level, are much improved in the past week; the lode is 10 ft. wide, composed of killas, peach, spar, mundic, and tin, worth about 20*l.* per fm. We are getting the new 12 heads of stamps in as forward astate as possible towards completion, and hope to have them at work in the course of a fortnight, or less time, provided we get the necessary castings in time.

EXMOOR WHEAL ELIZA.—Capts. W. H. Whitford and Thomas Dunn (Jan. 24) report—Since our last, our sinking operations have been progressing favourably, the ground being better for blasting. We have no reason to fear but our shaft will be down to the 24 fm. level at the time appointed and specified at our last meeting. The engine works well at present; everything is progressing satisfactorily.

HERODSFOOT.—Capts. J. Medlen and Peter Dunstan (Jan. 22) report—The 106 fm. level north is without alteration since last report; in this level south we have been driving by the side of the lode, with a view to hole to the winze sinking under the 94, which we have this day accomplished; the stopes in the back of this level are producing a fair quantity of ore; the sumpmen have sunk 9 ft. in the shaft, and are cutting cistern-plat, preparatory to fixing the plunger-lift. In the 94 north the lode is 20 in. wide, producing ½ ton of ore per fm.; in this level south we are driving by the side of the lode, with a view of holing to a winze sunk under the 82 fm. level as soon as possible; the pitches and stopes in the back of this level (94) are producing a fair quantity of ore throughout. The 82 north is in the slide; the stopes in the back of this level are without material alteration. Windsor shaft will be completed, and in course of driving from this level (82), by the end of the week; the bottom lift of this shaft (Windsor) is down 10½ fms. under this level. In the 72 south the lode is small and unproductive; the stopes in the back of this level are producing rather less ore than we expected from them when we reported last, but are now likely to become more profitable next month. In this level north the end has been improving for the last week; it has a very encouraging appearance, the lode being upwards of 1 ft. wide, producing good stones of ore, and letting down a great deal of water. We hope to be able to report more fully on this in our next report. The 52 end we are driving south by the side of the lode, and we expect soon to have a favourable change in the end, as the productive ground in the back of the 72 is rising gradually going south. We have sampled 100 tons of ore on the 19th inst., and have forwarded samples to the different purchasers.

HOLMBUSH.—Captain Wm. Lean (Jan. 24) reports—The ground in the 132 fm. level cross-cut north is still favourable; we are also getting through the great cross-course in this level as well as we can expect, considering the nature of the rock (capel), and the trouble which water occasions. The lode in the 120 fm. level south is 3 ft. wide, producing fine stones of lead. The lode in the 110 fm. level south is 4½ ft. wide, composed of can, prian, and stones of lead—saving work; we have communicated the rise above this level to the winze sunk below the 100, both levels being now well ventilated, which is a very important thing in mining. The Flap-jack lode, in the 100 fm. level east, is 20 in. wide, composed of mundic, spar, and stones of copper ore—ground still favourable; we have again met with another small cross-course dipping east, and hope, before another week, to have reached the main body.

KESWICK MINES.—Captain W. Paull reports—Agreeably with your instructions I commenced an inspection of your mines, near Keswick, on Wednesday last, and, so far as in my power, endeavoured to ascertain their state and prospects, and hereby take leave to lay before you my report. In this you cannot expect any statement from me relative to how the money has been expended, further than that the arrangements for making trials on the lodes, dressing ores, &c., are placed in as good positions as their situation would admit; and, finding the cobalt mine the most important, I visited it twice, to endeavour to form as correct an estimate as possible of the ore discovered, and the probable cost per ton required to obtain it. After mature consideration, I think, by driving No. 3 level about 40 fms., you will have nearly 2000 tons; this is independent of any discovery that may be made in the extension of any of the other levels, which are now poor, although in each of them the lode is large, and not without ore, and other favourable symptoms. To raise this ore, take it to the drying-house, grinder, &c., and reduce it to the size required—viz., to go through a sieve of 16 holes to the inch, I estimate the cost at 25s. per ton; and to conduct the operations at the mine in the most judicious manner, I think the average quantity you can get will not exceed 24 tons per week. This, I am persuaded, is as much as you can calculate on returning with the grinder, after the ore has properly been prepared by drying, the small stream of water at times, weather, and other casualties, taken into consideration; and, I am strongly impressed, this quantity is more than can be manufactured by two furnaces, which are all that are erected, and one of them is at present out of repair. I regret no smelting was going forward, as I should then have been able to pronounce more accurately on this head. The building is capable of containing four furnaces, and before any one can say with accuracy the average quantity necessary for each furnace, there should be a much more extensive trial made than has hitherto been. I am fully convinced that those are the only means whereby you will be able to form anything like a correct estimate of the quality of the ores, and what profit the mine should give, and I have an impression this will soon be the case, if conducted by smelters and miners, for the general good. I think there are now about 100 tons of ore on the surface. I received your letter from Mr. Langton, and had before seen all the smelting-works, except the precipitating-room.

KIRKCUDBRIGHTSHIRE.—The agent (Jan. 20) reports—The lode in the 50 end, east of Stewart's, is still large, and a kindly spar with it, spotted with ore; the lode in the winze is about 3 ft. wide, with occasional stones of ore, mixed with jack and sulphur through it. The 30 end east is still in the same stratum of rock; the lode is again inclining southward a little. The lode in the 20 end east has a strong course of sulphur with it, and favourable ground, but is still unproductive. We intend to ship another cargo of ore next week—having engaged a vessel for that purpose.

LEWIS.—Capt. S. S. Noell (Jan. 20) reports—In the 70 fm. level end, west of sump whim shaft, on south branch, the lode is much the same as when last reported. The lode in the 70 east is 2 ft. wide, composed of peach, spar, mundic, and killas, with some spots of tin. The lode in the 60 east, on south branch, is 2½ ft. wide, worth 12*l.* per fm. The lode in the 60 west, on south branch, is 1 ft. wide, producing some good work for tin. The lode in the 50 east, on south branch, is 2 ft. wide, worth 6*l.* 10s. per fm. In the winze below the 60, on south branch, the lode is 3 feet wide, worth 20*l.* per fm. The lode in the 50 east, on Cook's branch, is 1 ft. wide, worth 5*l.* per fathom. The lode in the 50 east, on Ralph's Branch, is 15 in. wide, yielding some good stones of work. The lode in the 40 east is 2 ft. wide, yielding a small portion of tin. The lode in the 40 west on south branch is 1 foot wide—saving work for tin, driving at 12s. tribute.

MENDIP HILLS.—Capt. T. C. Harpur (Jan. 22) reports—In sinking below the 20 fm. level, we find the lode presents much the same appearance as it has for some time past, being principally composed of flookan and spar, with sprigs of ore at times. In the slag department, we have a good pile of slags prepared for the furnaces, I hope sufficient to keep them engaged 24 hours, which I intend to commence smelting on Wednesday morning next; in laying open the cutting towards the eastern part of the valley, we find the beds of stuff to be about 16 ft. thick, gradually improving, both in quantity and quality, as we proceed up the valley.

SOUTH WHEAL MARIA.—Capt. G. Francis (Jan. 25) reports.—We continue to drive by the side of the lode in the 20 fm. level, east from the engine-shaft; there is a nice flookan on the north wall, and the ground is much more favourable for driving than when last reported on; by breaking the foot wall of the lode, we find it is composed of mundic, peach, &c., with good copper ore interspersed throughout. We are approaching near to the south cauntor lode, east of which the back has a most promising appearance, there being a good gossan, for a great many fms. in length, mixed with rich ore, which continues east to join the Devon Great Consols sett.

SOUTH WHEAL TRELAWNY.—Capt. William Jenkin (Jan. 22) reports—The lode in the 30 fm. level, north of the shaft, is still driving by six men; we are also still pestered with floors of elvan; one part of the lode on the eastern side (a foot wide) is composed of mundic, killas, barytes, spar, with spots of lead; we are also driving north close by the shaft, in the same level, on a sparry branch, with ground favourable, and is still letting down a pretty deal of water, and branch regular, 8 in. wide, composed of mundic, killas, fluor-spar, and flookan, with spots of lead.

STRAY PARK.—Capts. Richard Eustice and Elisha Ralph (Jan. 22) report—In the 70 end, driving west, the lode is small and unproductive. In the 80 end, driving west at Wheal Francis, the lode is 1 ft. wide, yielding 1 ton of ore per fm. In the 90 end, driving west at Wheal Francis, the lode is 14 in. wide, yielding stones of ore. In the winze, sinking below the 90 fm. level, the lode is 2½ ft. wide, yielding 5 tons of ore per fm. In the 100 end, driving west at Wheal Francis, the lode is 1 ft. wide, yielding stones of ore. In the winze, sinking below the 100 fm. level, the lode is 3 ft. wide, yielding 3½ tons of ore per fm. In the 110 end, driving west, the lode is 1 ft. wide, yielding 1 ton of ore per fm. In the winze, sinking below the 150 fm. level, the lode is 2 ft. wide, yielding 2 tons of ore per fm. In the 180 end, driving west, the lode is 3 ft. wide, yielding 4 tons of ore per fm. In driving this 180 fm. level west a lode from the south fell in with it, and made the ore, and at this point we have four men taking down the south part—lode 3½ ft. wide, yielding 5 tons of ore per fm. We have four men 16 fms. east from this point, driving south on a cross-course, and we expect to intersect this new lode in 3 fms. driving; when this is accomplished, we shall rise above this level to meet the winze sinking below the 150 fm. level, and, when holed, we shall drive intermediate levels—we consider the prospects in this part of the mine very encouraging. In the 180 end, driving east of the cross-cut, the lode is disordered by a cross-course. In the cross-cut north, in the 56 fm. level, we are rising above the back on the cross-course, to hole to a 46 fm. level for ventilation. In the cross-cut, driving south, in the 56 fm. level, at Wheal Francis, we have not yet intersected the lode. The last sampling was for eight weeks, and, consequently, has fallen short of our usual quantity.

TRELEIGH CONSOLS.—Captain Wm. Symons (Jan. 20) reports—In the 113 fm. level, east of Garden's shaft, the lode is 2½ ft. wide, rather more promising, with stones of ore; in the 113, west of ditto, the lode is 3½ ft. wide—not unkindly, but little ore. In the 100, west of ditto, the lode is 1 ft. wide, with occasional stones of ore. In the 90, east of east cross-course, the lode is 10 in. wide, producing stones of ore only; in the winze, below the 90 east, the lode is 2 feet wide, but not much ore. In the 70, west of Garden's, the men are cutting open for a tram-road. In the 60, west of ditto, the lode is about 1 ft. wide, with good stones of ore—rather improved since last report. The cross-cut, south of Wheal Parent, to cut the lode, which we are daily expecting. In the adit east, on the middle lode, the men are deepening the 70 plat at Garden's, for a trip for tram-waggons.

WHEAL SARAH.—Capt. Thomas Trevarten (Jan. 16) reports—The mine is looking well. The lode in the south end, in the 20 fm. level, is improved since my last; there is also some good work in the north end in this level. We have four pitches set on tribute—one as low as 5s. in 1*l.*, and the men are getting wages. The lode in the winze, below the 9 fm. level, is looking well—good work for lead. If all be well we shall get our new wheel in the south part of the mine, in order to work the latter part of it, next week. We are forking the water to the 30 fm. level in the old mine; after which, we shall be constantly breaking lead from that point.——*Jan.* 24.—In the south end, in the 20 fm. level, the lode is 2 ft. wide, 6 in. of which is a solid branch of lead—ground favourable for driving; we have not yet seen the north end in this level, but are clearing up the level, and expect to find a good lode in the end, as there is good work in the back of the level, so far as we have already seen. In the stopes, in the back of the 16 fm. level, we are breaking some excellent work, just as last reported. We have sunk a winze from the bottom of the 9 to the 20 fm. levels on the course of a lode, from 2 to 2½ ft. wide (and the lode not without lead in all this winze), which, of course, will be a great advantage to us in setting pitches, &c. The tributers appear to be getting fair wages, and we hope to set more pitches another month. We hope to be in course to commence working at Mayhew's shaft the ensuing part of another week, as our wheel is completed, and we are preparing to drop the lift, &c. We have several tons of lead at surface, and continually hauling more from different parts of the mine—therefore, we are only waiting the completion of our stamps, &c., to get it ready for market.

WHEAL TRESCOLL.—Capt. J. Webb (Jan. 24) reports.—The B lode, No. 1, is much improved since my last report, but we are obliged to stop driving on the course of it, as there is a quantity of water proceeding from it, and as we are aware there is another cross-course about 9 ft. ahead, we are fearful of cutting a large body of water; if so we shall drown the engine; so we shall be obliged to let this course of tin stand, until we have the large engine at work, which will be as soon as possible. We have also cut the B lode, No. 2, at the 10 fms., very good for tin; we have also the same course of tin in the eastern back; our mine was never looking so well as she is at present, every fathom we drive makes fresh discoveries. I do not like to boast myself, but I have had a Captain Symonds to inspect the mine, and he gave his opinion, and states the B lode, No. 1, to be worth 100*l.* per fm.; but he cannot exactly state the worth of the B lode, No. 2, as it is going through the cross-course; I shall be able to state its worth in my next. We shall raise sufficient tin to pay cost next month, and hope to continue doing so, if we can keep out the water. We are busily engaged in getting the materials home purchased from the Great Herod's mine.

WHEAL VINCENT.—Capt. S. Grose reports—Our work is going on satisfactorily, especially our wheel-pit and lobby. We have all hands now engaged about it that we can spare. I hope Capt. Spargo will be able to give you a full report next week.——*Jan.* 24—In bringing up the lobby to the wheel-pit, we have cut a very promising lode indeed, 14 in. wide, composed of mundic and good stones of tin; and shall be able to speak more as to its value in the course of another week, as we shall see it deeper in the shelf, by bringing up another stope. We hope to commence driving under the turnpike-road in the course of a few days. The smith is getting on satisfactorily with the rods, &c.—so that we shall have no hinderance on this hand; and all our other work is progressing in a satisfactory manner.

WEST WHEAL JEWEL.—Captain R. Johns (Jan. 22) reports—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is unproductive. In the 57 fm. level east, on the same lode, lode worth 2*l.* per fm. In the 57 fm. level, west of Williams's cross-course, on the same lode, lode worth 2*l.* per fm. In the rise in the back of this level, on the same lode, lode worth 4*l.* per fm. In the 47 fm. level, west of Williams's cross-course, on the same lode, lode worth 4*l.* per fm. In the deep adit, west of Hodges's cross-course, on the same lode, lode not taken down in the present week. In the 30 fm. level, west of Quarry shaft, on the Tolcarne tin lode, lode 18 in. wide, producing stones of tin. In the deep adit, west of Quarry shaft, on the same lode, lode producing stones of tin. The stopes in the back of the 12 fm. level, east of Pryor's winze, on Tolcarne tin lode, lode working on tribute, worth 9*l.* per fm.; the stopes west of Pryor's winze, in the back of this level, are working on tribute, worth 18*l.* per fm.; the stopes in the bottom of this level, are working on tribute, worth 18*l.* per fm.

### FOREIGN MINES.

AUSTRALIAN MINING COMPANY.—*Tungkillo, Sept.* 1.—In the 40 fm. level north we continue to have favourable ground, but the lode here contains no copper in this level; we have now about 40 fms. to communicate this end with the 40, south of of Hoblin's winze, which will, should the ground continue favourable, be completed in three months from this date; in the 40, south of Lean's winze, there is no copper, although stains of green carbonate are seen in the lode, denoting that copper will be found at a greater depth; in the 40, north of Goad's winze, we have a lode 5 ft. wide, of solid copper ore, principally black sulphuret, so hard and so compact, that six men can drive no more than 9 ft. through it in a month. In the stopes there is also a fine course of ore, similar to that in the 40 end, in which six men can work away 40 fms. in a month; it is equally as hard as the 40 end from Goad's winze, but they can work away more ground, in consequence of its being laid open. In Stephen's winze the lode is still productive, although at present the ore is of inferior quality. We have commenced a new winze, called Phillips's winze, 15 fms. north of Stephen's winze, so as to lay open more productive ground under the 30, and to facilitate the driving the 40 fm. level. The man who sunk Anstey's shaft are assisting to erect the horse-whim engine, which will be completed this week, when we shall soon pump out the water, and resume the sinking. It

a now 8 fms. below the adit. In Anstey's adit the lode is large, and most promising of be productive at a deeper level. In the past month we have raised about 20 tons of ore, and, in the present month, we shall raise from 40 to 50 tons; the hardness of the lode is the only reason why we cannot raise a larger quantity at present; when we shall have made room, by getting the 40 some 3 or 4 fms. north from Good's winze, we shall employ six men in addition, to sink a winze below the 40, which will increase the raising from 40 to 50 tons per month. In conclusion, be assured, gentlemen, I am fully aware of the importance of working the mine in a proper manner, and, at the same time, to get out as much ore as possible, and feel rather impatient that the hardness of the ground prevents the mine being opened so rapidly as I wish. Stephen's winze is down to within 2 fms. of the 40; when it is fully down, we shall drive towards Good's winze in that level, and, should the lode continue its present hardness, three or four months must elapse before we can effect the communication, and I think it probable we shall commence the year 1849 by raising 100 tons per month, with every prospect of a steady increase. I thought of advising, at this time, the ordering of a steam-engine, so as to facilitate our operations below the 40, but now think it advisable to wait a month longer, so as to have time to consider what size engine would be necessary. I wish to observe a month longer, how much water will find its way into Anstey's shaft. My present opinion is, that we shall not want a very powerful engine. The weather, and state of the roads and creeks, are such, that I have thought it best to remain here until Montacute survey day, and not to visit Wheal Rothschild this month.

ALFRED PHILLIPS.

*Oct. 4.*—In the deep adit north, on Horne's lode, the lode is about 300 fathoms west of Baker's lode; they join together southward, and spread from each other going northward. Horne's lode is 12 ft. wide, with a regular dip west of 2 ft. to the fathom; it is a strong lode, and, so far as we have opened on it, contains faces of green carbonate all through, but not worth saving; it is not likely to be productive above the water level. We purpose to drive about 20 fms. into the hill, and then to sink a winze down to the water-level, and there to lay it open. On the lode, 22 ft. wide, newly opened, we have employed four men to drive east; this lode is principally composed of gossan and felspar; on the southern side it is much stained with green and blue carbonate; it is a highly promising lode. We intend to drive east some 20 fms., sink down to the water level, and there lay it open in all its width. In the 40, north of Goad's winze, I report the course of ore to be 6 ft. wide; we have not, however, yet got the eastern wall; if may probably be 1 or 2 ft. wider. So far east as we have cut it is producing red oxide, with a great quantity of native copper exceedingly rich. In the stopes, north of Goad's winze, the lode continues to yield 8 tons of good copper ore; but the lode here is not so large, nor does it yield so much ore per fathom as the 40 north, just below it, which is a most pleasing fact, proving that the deeper we penetrate, the larger and better the lode proves to be. The adit end north, and the adit south from Lean's winze, have now approached to within 20 fms., so that we may reasonably hope that we shall communicate this level, and lay down the railway, at or before Christmas, when we shall be in a position to increase our raising to 100 tons per month, as stated in my last report. In Stephen's winze we have reached the adit level, and driven 3 ft. south; the lode here is not very productive at present. It appears as if the great body of copper ore about Goad's winze had dipped northward—therefore, I am not at all discouraged by this place not being rich, as the appearances indicate a great body of ore at a deeper level, and not far down; but it will not be proper to sink the winze until we have got the end a few fathoms off, when, if there should be air enough, it will be advisable to sink it below the adit. We have commenced to sink Goad's winze below the adit in the course of ore, worth 200*l.* per fm. Phillips's winze, under the 30, is down 4 fms.; the lode is unproductive, but the indications are very good. We have employed two men to rise against Masterman's winze, with a view of making it a shaft, and ultimately, by means of a horse-whim, to draw the copper ore and water up Goad's winze to the adit, which, you will observe by the section, is just under Masterman's and Rooke's winzes. Horses will do such work more effectively than the windlass, worked by manual labour; and we have employed three men to search for Baker's lode, 140 fms. north of Goad's winze, with a view of sinking a shaft down to the water level, and hope you will see the propriety of our extending the workings on this lode, which is turning out so well; and as there is now no doubt, that in order to the effectual working and permanent welfare of the company's mines, a steam-engine must be erected, to sink the mine below the water level. We calculate that the engine should be placed in such a position, as to pump water from Goad's winze, and from a shaft 140 fms. further north, when we should be sinking in two places at the same time, in underlying shafts, as well as sinking a perpendicular shaft under the engine, so as to cut the lode some 40 or 60 fms. below the adit. Horne's lode, and the 22 ft. wide lode, are not less promising to commence with than was Baker's lode, and I expect it will not be long before steam-power will also be wanted, to make them equally or more valuable than Baker's lode. It is highly gratifying to me to be able to give such a pleasing report from the special survey; and really, when I consider that we shall soon be in a position to smelt the inferior part of our ores on the property, and the large and promising lodes discovered, I think I am justified in stating that the property is, even now, well worth 200,000*l.* The quantity of ores raised this month is 45 tons.

A. PHILLIPS.

## ANGLO-MEXICAN MINES.—*Guanaxuato, Dec. 4.—Asuncion:—*

| Week ending— | Memoria. | Sale. | Profit. | Loss. |
|---|---|---|---|---|
| Nov. 4 | $382 4 6 | $634 2 0 | — | $65 3 6 |
| „ 11 | 326 4 9 | 744 2 0 | 45 4 3 | — |
| „ 18 | 299 0 0 | 588 0 0 | — | 5 0 0 |
| „ 25 | 360 6 3 | 566 1 0 | — | 77 5 9 |
| | | | $ 146 1 3 | |
| Less | | | 45 4 3 | |
| Total loss on the four weeks | | | $ 102 5 0 | |

Sold, in all the month, 80 cargas of ore, at $ 14 0 7 per carga.

"The first step for abandoning the mine has been taken, by my giving, on the 2d inst., a month's notice to that effect, according to the fifth article of the contract which was made on the 11th April, 1834. I will endeavour to carry the matter through in the best way possible." [Mr. Brough is engaged in recovering the outstanding claims of the company, and realising stores, &c.]

## BOLANOS MINES.—The following advices have been received per *Teviot*,

*Extract from a Letter from Mr. Birkbeck, dated Zacatecas, Dec. 4.*

I have the honour to acknowledge the receipt of your favour of the 27th September, enclosing invoice of 10 cases of boiler rivets for the Bote negotiation.

La Granda Hacienda is still stopped for want of a supply of ore. Celestina yields very little, and the Bote barely sufficient for Cinco Senores. Our hacienda expenses are, in the meantime, reduced as much as possible, and I am anxiously hoping that we may shortly receive some assistance from the Bote.

Celestina has not improved since last month's report, though, in the last week, the workings have looked up a little. I am now endeavouring to get some ore from the old part of the attle heap (Terrero), and obtained last week (Dec. 2) 23 cargas, containing about 7 mcs. per monton. Thus the mine still continues one month with another, doing little more than paying costs, and with little or no hope of ever becoming much more valuable than at present. Still I feel averse to abandon it altogether, and deliver it to its owners, while there be any possibility of amelioration.

— Mr. Piacci still complains of a great scarcity of workmen, and, in consequence, has not been able to increase his extraction; neither is the quality of the ore quite so good as formerly, and, probably, we ought not to expect much improvement in this respect, till the present bottoms are communicated with the Compania and workings open at that level. The Compania cross-cut has not arrived at that part of the vein on which the higher workings of Guadalupe are situated; therefore, the string of ore which was cut through must belong to the Providencia branch, and, as the ore is good, it may probably be worked to advantage by means of short cross-cuts from the workings above. The building of the engine-house is proceeding satisfactorily.

*Extract from a Letter from Mr. Piacci, dated Zacatecas, December 5th, 1848.*

Enclosed I beg to hand you the usual monthly accounts and statements for November. Notwithstanding that there is a loss in the month of $1692, if you observe, you will find that in San Genaro alone our expenses were nearly more than $ 4000 above the loss. This shows what the mine can do, even with low leys, as soon as we have the engine at work. By Mr. Manuel's calculation, the weekly cost of the engine will not pass $500; by this means an immense saving will be made in the expenses of drainage. I am sorry that I cannot give you a better account of our workings. The ores extracted during the latter part of the month hardly average 4-50 mes. per assay. I was underground yesterday examining minutely every point, and they are all looking, more or less, alike, except in No. 3 east, where the vein is so full of blende and disordered, that none of the workmen will work there. The vein seems to get poorer as we go down upon it; but the ores on all the points are from 3 to 5 varas wide. In Pozo de Guia, which is the deepest point, the ores are not so good as in the other points, although, in the first week of last month, it was looking better than I had ever seen any labour for a long time, but this has not continued, as I now inform you.

In a few days, the Compania cross-cut will be under the Pozo de Guia; and we can then better judge of what aspect the lode offers at that depth. The good appearances in this end, east of Guadalupe, have again disappeared, and it is again in carrasecal colorado. Taylor's cross-cut continues in most favourable ground; and I have no doubt that, by the end of February, we could be on the alto of the lode, if this ground continues; but I suppose that we shall have to stop it, when it gets near the 70 varas, until the engine is ready to go to work. During last month, good progress has been made in the erection of the engine-house, which I have no doubt will be finished by the end of the month, and Mr. Rickard will immediately begin putting the engine together.

## IMPERIAL BRAZILIAN MINES.—*Bananal, Nov.* 18.—At this place Wray's shaft wants about 8 feet of reaching its intended depth; Goldsmid's western cross-cut, in the adit level, advances slowly, as the rock in it is very hard. The rise, north of Thomas's shaft, is about 7 fms. above the adit level, and continues to yield tolerably for the stamps. The stone in the cross-cut, west from Walker's shaft, in the 7 fm. level, is very hard, and our progress is, consequently, very slow. Thomas's shaft has been sunk about 6 feet during the past ten days, and the vein in it has of late been rather less productive than hitherto. Gibson's shaft goes down very slowly, as the rock in it is very hard indeed. The 7 fm. level, south from Hollingsworth's shaft, is in a very troublesome formation, and as we have still 10 fms. to reach the point above, in which the vein was productive in the adit, we do not think we could dispatch the troop in time to meet the next (the *Zinnat*) packet in Rio, if we were to detain it until the level has penetrated so far. On cross-cutting the slate rock in the adit level, south from the same shaft, we have intersected a second bed of jacotinga, very similar to that near Thomas's shaft; it is, however, exceedingly hard, and time has not permitted us to penetrate far into it. On the jacotinga, in which our adit was driven, we are continuing to drive southward. It appears as if the slate forms a wedge-shaped mass (horse) between the two beds of jacotinga, the eastern portion extending beneath the commissioner's house, and the western striking the Piracatu Mountain, east of it: this, however, requires far more examination than circumstances have yet permitted for its elucidation, and with a view thereto we have resumed driving the shallow adit level, west of Hollingsworth's shaft. Brightman's shaft is about 3 fms. deep, and has not yet pierced the superficial iron (canga) formation. Whims have been erected, both at Thomas's and at Brightman's shafts, a new lift of pumps have been fixed in the former, and the framing of walls and woodwork, and some of the tiling of the roof have been set up for the children's dormitory and workroom during the past ten days. The drought still continues, and, although it favours artificers' work, it is prejudicial to our water courses. Every exertion is made to further the work, and I trust no economy, consistent with full efficiency, is lost sight of in any branch of your service.

*November* 23.—Our gold troop, commanded by Thomas Gray, and escorted by Josiah Webster, left this place on its way to Rio on the 17th inst., taking 39 lbs. 6 ozs. 19 dwts. 4 grs. of Gongo gold, and 93 lbs. 4 ozs. 18 dwts. 16 grs. of Bananal gold—133 lbs. 1 oz. 3 dwts. 19 grs. troy altogether. I have requested Messrs. Mackay, Miller, and Co. to take care that the parcels are not mixed when the export duty is levied. The new gudgeon and crank reached us on the 12th inst., and by dint of working day and night, without interruption, we got them in their places, and the wheel was again at work in the afternoon of the 19th. These give a stroke of 8 feet in the pumps, instead of 6 ft. 8 in., which only the former crank permitted; and as our machinery now seems as strong as we can desire, we have the water proportionately more under command. At Bananal, Wray's shaft has reached the deep adit level, and we have commenced cross-cutting the jacotingas westward; having, however, a single shaft only, the ventilation is imperfect, and, before we can do anything more, it will be necessary to erect an air-machine, which we shall do in three or four days. The cross-cut, westward from Goldsmid's shaft, has at length reached softer ground, and our progress is rapid. We have intersected several small veins of quartz and mica, but they afford no traces of gold. The rise above the adit, north of Thomas's shaft, has reached the old workings; we are now in course of examining it, to see if the vein will yield anything suitable for the stamps. The cross-cut westward from Walker's shaft, in the 7 fm. level, continues to pierce a very hard rock, and has afforded nothing worthy of notice since my last. As we shall resume sinking Walker's shaft to the 14 fm. level in a few days, the men who have been driving this cross-cut will be removed to the shaft. In order to get out all the gold within reach for remittance, we sunk as far as we possibly could on the vein in Thomas's shaft, leaving a considerable portion of unproductive rock for subsequent removal; and having been occupied in taking this away, and in securing the sides of the shaft, we have been unable to work on the vein—our gold returns are, therefore, the produce of the stamps only. In about three days more we hope to resume the extraction of gold from this spot. We continue to sink Gibson's shaft, and have commenced rising to meet it from the 7 fm. level; the rock is hard in both these stations, and our progress is, consequently, slow. The shallow adit, west from Hollingsworth's shaft, has intersected a kind of jacotinga, probably the northern and superficial portion of that discovered by our western cross-cut in the deep adit; the former is soft, but the latter is extremely hard; the eastern jacotinga also (on which the adit has been driven south from Hollingsworth's shaft) is much harder than we had previously found it. In the 7 fm. level south the ground is soft, and we advance but slowly. Brightman's shaft has not yet penetrated the ferruginous conglomerate (canga) which overlies the jacotinga, although we have sunk 4 fms. through it. Our surface work has been, preparing for and fixing the new machinery at Walker's water-wheel, finishing several more houses for the blacks, and building the matron's house, and work and sleeping rooms for the children. The rains seem to have regularly set in, and should the season prove an average one, we cannot look to the completion of many more surface-works for two or three months to come; our native labour will be, therefore, very materially reduced by the end of the present month.

*Dec.* 4.—At this place, having succeeded in ventilating Wray's shaft, we are cross-cutting the jacotinga westwards. The rock in Goldsmid's western cross-cut, in the adit level, is a little harder than it has been; neither of these spots have yet exhibited anything worthy of notice. A most careful examination of the rise above the adit, north of Thomas's shaft, has failed to disclose even a particle of gold. In about a fortnight more we shall have the 20-in. plunger-lift fixed in the 7 fm. level, in Walker's shaft. At Thomas's, all the needful preparations having been made, we have continued to sink on the vein; but, unfortunately, it seems at present less productive than it has been for some time past; we hope, however, that is only another of those casual fluctuations to which this vein is liable, in common with all others, and that our next may have an improvement to report. The rock is exceedingly hard in Gibson's shaft, in which we have about 9 ft. more to sink, in order to reach the 7 fm. level. The shallow adit, west of Hollingsworth's shaft, has reached a jacotinga formation; we have yet intersected no veins in it, and the hardness of the rock forbids a very rapid progress; in the 7 fm. level the ground is soft, and we penetrate it but slowly. We are immediately beneath the spot where the former owner and his workmen say they found gold in the adit; the rock is very similar, but no traces of gold have yet presented themselves; this level still wants about 4 fms. to the spot, above which we found gold in the adit level. Some accidents have reduced our force by eight Englishmen; we are, therefore, unable for a few days either to extend the deep adit from Hollingsworth's shaft, or to sink Brightman's. A few days more of mason's work will complete the matron's and children's sleeping and work rooms. A house for the stableman, and a stable, are in a forward state at Valeria; and the completion of these, and the arrangement of Bananal house as a hospital, and residence for the doctor, will probably be all we shall be able to accomplish before next year's dry season. Our Brazilian force was materially reduced on the 2d inst., and I see nothing to require its being increased again for several months to come. Although we have had a few heavy showers, the regular rains have not yet set in; our water-courses are, therefore very low, and the stamps work slowly.

*Gold Report.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| From Gongo—from 3d to 10th Nov. | lbs. | 5 | 1 | 10 | 0 | | | |
| „ 11th to 22d ditto | | 4 | 2 | 14 | 0 | | | |
| „ 23d to 2d Dec. | | 4 | 7 | 5 | 0 | — 13 | 11 | 9 0 |
| From Bananal—from 3d to 9th Nov. | lbs. | 4 | 4 | 14 | 0 | | | |
| „ 10th and 11th ditto | | 5 | 10 | 1 | 0 | | | |
| „ 13th to 22d ditto | | 3 | 1 | 4 | 0 | | | |
| „ 23d Nov. to 2d Dec. | | 3 | 2 | 0 | 0 | — 16 | 5 | 19 0 |
| Together | lbs. | | | | | 30 | 5 | 8 0 |
| Total raised from the 1st July, 1848—From Bananal | | | | | | 157 | 8 | 17 0 |
| „ „ From Gongo | | | | | | 77 | 3 | 7 0 |
| Making a total of | lbs. | | | | | 235 | 0 | 4 0 |

[About 5500*l.* worth of gold has arrived per *Linnet* packet.]

## NATIONAL BRAZILIAN MINES.—*Cocaes, Dec.* 2.—We are by this opportunity enabled to send you a more favourable report on the mining operations than we have had the pleasure of doing for some time. Within the last few days the lode has become much flatter than usual, which change we expected would have taken place before now, as the underlie of the lode, for the last 4 fms., is about five degrees greater than the general dip of the veins easterly; and, although we have often observed the lode most productive at its greatest inclination, yet, on this occasion, the moment the change was noticed, the veins began to improve. Last night there was another very promising sample taken from the place in question, and this being almost the principal point of expectation, we will endeavour to place a few more hands there for the next 10 days.

*Cuiaba, Nov.* 26.—We have now very extensive stopes open, and shall very shortly be able to add to their length both east and west; they are now being worked 12 fms. long and 17 ft. wide, and are in good working order. Although our returns for the past 20 days have not been so good as was anticipated; yet I have not less confidence in the piece of ground before us, which will, in my opinion, give some years profitable work, should the floors continue as good below Reid's level as they have above it.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Cocaes produce—from 3d to 13th Nov. | Mrs. | 3 | 5 | 0 | 38 | | | |
| „ 13th to 23d ditto | | 3 | 2 | 5 | 3 | | | |
| „ 23d to 3d Dec. | | 6 | 4 | 0 | 9 | — 12 | 3 | 5 50 |
| Cuiaba produce—from 26th Oct. to 6th Nov. | Mrs. | 5 | 0 | 0 | 51 | | | |
| „ 6th to 16th ditto | | 3 | 6 | 2 | 15 | | | |
| „ 16th to 26th ditto | | 3 | 2 | 6 | 53 | — 12 | 1 | 1 47 |
| Total | Mrs. | 24 | 4 | 6 | 25 | | | |

## ST. JOHN DEL REY MINES.—*Morro Velho, Nov.* 8.—Produce for Oct., 20,657 oitavas=198·45 lbs. troy, from 6197 6-10ths tons of ore, yielding an average of 3·33 oitavas per ton. When the board recollect that is the produce of only 20 days stamping (the first day of October having been thrown into September month), as per my letter of the 8th Oct., that our manual force, at best not yet equal to our wants, has been latterly crippled by sickness to an unusual extent, I trust they will feel satisfied with this produce, the greatest we have hitherto attained.

Stamps working during the month average 90·54 heads.

| | | | |
|---|---|---|---|
| Cost for October, rs. 40,490 755, at 22½ | | £3796 | 0 2 |
| Produce, 20,657 oitavas; less duties, 7 per cent., 1446—net oitavas, 19,211, at 7s. 7d. | | 7284 | 3 5 |
| Profit | | £3488 | 3 3 |

*Amalgamation-House.*—The cog-wheels requisite for attaching the remaining three barrels to the rods from the new wheel are nearly ready; but when they are finally fixed a great deal will still remain to be done, which will occupy us fully till the end of the year, if not longer, before the alterations and improvements contemplated for the amalgamation-house be completed.

*Inclined Plane.*—This plan of hauling has been found to succeed so admirably in the Cachoeira Mine, that it is decided to take immediate steps to lay one down in the Bahu. I have, in consequence, already given an order to one of our founders for some of the iron rails required, and the carpenter in charge of the saw-mills has directions to begin to cut the timber; it is hoped it may be completed by July or August next.

*Morro Velho, Nov.* 28.—Gold extracted to date, 15,638 oitavas from 755 6-10ths cubic feet of sand=20 7-10 oits. per cubic foot. This, as the result of 20 days' stamping, would seem to promise a splendid produce for the month; but I am sorry to say the third division of the month is not likely to equal either of the other two, as there is an evident inferiority, as well in the quality as in the quantity of the ore now submitting to the stamps; still, on the whole, the produce of the month cannot well fail to be good. Stamps working, 27 days, 93 8-10 heads. Supply of stone has been hitherto pretty fair, though we have been obliged to draw a little from the refuse heap. Capt. Treloar, however, is afraid that he must now, with the view of keeping the mine in order, withdraw the borers for a time from the most productive stopes; the lode in the extreme west of Quebra Panella, is not looking so well as it had done; and, from an appearance of killas in the end, Capt. Treloar thinks the lode may be drawing to a close.

## UNITED MEXICAN MINES.—*Guanaxuato, Dec.* 8.—*Mine of Rayas.*—The degree of anxiety felt by the court, in the progress of the various workings of the mine, owing to the sudden falling off in that of Santo Toribio, has been preceded by a similar feeling on my part; but I am happy in now being able to state, that of the several points which have emanated from the original discovery in Santo Toribio, and now fully as extensive as this, there are three (San Ignacio, Jesus, and San Antonio) in very excellent ore, carrying with them the furthermore encouraging appearance of improved returns, in the proportion of proceeding to the virgin ground to the south-east extremity of the mine. I had a parcel of 31 cargas, the produce of better class, from San Ignacio, sold last week, which brought $3193, or $103 per carga—its contents having given me, by assay, 53 marcs of silver per monton of 32 quintals, and 420 grains of gold to the marc of silver, value together, $3630, which, after deducting expenses, would leave 3 to 4 per cent. profit to the buyer. The end of San Luis, carried on by tutwork until last week, has also come into good ore; and, as an interesting point, it is now worked by barmen as the aforementioned richer workings, San Ignacio, Jesus, and San Antonio. The ores having fallen off in the direction of San Cayetano, the 19 pairs of barmen employed there will be gradually removed to the more productive points in Santo Toribio, as soon as workmen and gunpowder, of which we have been exceedingly deficient for some weeks, can be obtained more freely.

Shortly after closing my last letter to the court, an event took place in the shaft of San Miguel, threatening serious loss of life, as well as a total suspension of operations in that portion of the mine. A portion of one side of the shaft, 16 varas high by 8 varas in breadth, broke from the solid rock, and remained suspended by something like cohesion; but not alone so, as cohesion evidently was gone, when so great an opening as 3 in. wide was visible between the stone and the solid rock. Having broke off the loose parts, the stone is now secured in part, by raising the masonry work of the lower part of the shaft, which, when completed to 96 varas, will effectually secure both stone and shaft. The extraction of ore, &c., is, in the meanwhile, carried on by the shaft of Santa Rosa, which, being somewhat distant from the workings, is attended with additional expense, and even time, as ore-carriers are also scarce, and unobtainable in the ratio of the greater distance. Neither interruption, or further accident, has been met with, and, in a fortnight hence, everything will have resumed its former course.

The following figures show the result of operations during the last five weeks, ending the 2d inst., as compared with the preceding similar period:—

| Five weeks ending— | Picked Ores. | Half Sales. | Mine Sales. | Outlay. |
|---|---|---|---|---|
| Oct. 28 | Cs. 4461 | $14,120 2 0 | — | $31,867 2 4 |
| Dec. 2 | 4064 | 10,554 4 4 | $5269 0 0 | 29,798 3 0 |
| Cargas | 397 | $3465 5 4 | $5269 0 0 | $2068 7 4 |
| | Decrease. | Decrease. | Increase. | Decrease. |

*Remittances.*—The usual conducts, about the end of the year, for Tampico, will leave hence from the 22d to the 24th inst., and by it I shall remit the sum of about $ 30,000 for shipment to the directors, free of all charges.

*Quicksilver.*—I am happy to say that the whole of our remaining stock at Tampico, 510 flasks, is now on the road to this, *viâ* San Luis Potosi, which route will be less expensive in freight, as well as being actually better supplied with arrieros.—J. M. Shoot, Esq.

*Report on the State of the Workings of the Mine of Rayas.*

*Dec.* 5.—During the past month the sales of Busconas have been low. The last four weeks, compared with an equal term in last month, shows a decrease of $ 5542; this decline is ascribable, in part, to the ores having been overpaid in the first period, and, in part, to the exhausted state of the workings in which Busconas are employed.

*Santo Cristo.*—This work, owing to the extreme hardness of the rock, has advanced in four weeks (not having measured last week) but 2·69 varas—the vein continues poor.

*San Luis.*—This work, it will be remembered, is in a division of the vein parallel to that of Santo Toribio, and separated therefrom by a space of about 20 varas; 4·33 varas were driven in this month, when ore appeared, of a quality sufficient to justify the suspension of the destaco, and the employment of barmen. The ore is of a character very different from that of Santo Toribio; another month's work will throw some light on the value of this portion of the vein.

*San Cayetano.*—In these workings we have employed fifteen barmen by day, in obtaining ore from pillars when support was not wanting. This ore is mostly poor.

*Santo Toribio.*—These workings have employed fifty barmen by day and night. The pit of Santo Toribio continues in ore in the bottom, mostly poor, with a small proportion of good; the ore is not inclined to make on either side. The works going upwards—viz., the rises of Jesus and La Merced, continue in poor ore. San Ignacio and San Antonio, on small branch veins in the upper wall, are in narrow ores, but of a very fair average ley. This end of Santo Toribio (most advanced point to the S.E.) has improved, and now has a small thread of rich ore. This end of Jesus is in good ore, with an increasing proportion of the richer class. This work is directly above, and nearly as far advanced to the S.E. as that of Santo Toribio.

S. P. Parkman.

[From the *Plymouth Journal.*]

Wheal Franco.—There is no change here since our last.

Plymouth Wheal Yeoland.—The water in the cross-cut from the 32 fm. level is much quicker than it has been, which indicates that the lode is not far a-head. The burning house is in course of erection. No other change worthy of notice.

Plymouth Wheal Yeoland East.—The end is progressing favourably. No return has as yet been made of stuff stamped by the Wheal Yeoland engine.

Birch Tor.—In Prideaux shaft, which is 3 fms. below the adit, there is a good looking lode. The cross-cut, north, is progressing favourably, the driving being from 12 to 15 fms. a month; at this rate it will take from four to five months to cut the north lode. The shaft on the Vittifer lode is 3 feet under the adit level—this lode will be intersected about 3 fms. under this point. There was, owing to the severity of the weather, a great falling off in the returns for last month.

Wheal Calstock.—In taking down another portion of the lode in the pitch, in the 50 fm. level, another branch of ore has been met with, which makes the leader part of the lode to be 3 feet big; a cross-cut into the lode in the present end of the 50 fm. level, and in the shaft, has been commenced. In the cross-cut, north, in the 30 fm. level, the ground is very favourable for driving, being a soft blue killas.

Caradon Wheal Hooper.—This mine is now being thoroughly tried to the depth it is sunk, by driving with full parcs of men, the 58 fm. level, south, which is in killas, towards the south lodes, one of which, Pearce's lode, carries on the back a large gossan. The 58 fm. level, west, is driving on the course of Daw's lode towards the granite; and the 50 fm. level, north, is driving also in granite, to cut the saw-pit lode—this mine adjoins South Caradon and Wheal Agar.

Caradon Copper.—The opinion of the miners in this neighbourhood is, that if the lode could be seen another lift under the 30 fm. level, a productive lode would be met with, the lode being very promising for the depth.

## DEVON AND COURTENAY CONSOLS.

At a two-monthly meeting of adventurers, held at the Central Hall, Plymouth, on the 16th inst.—Mr. F. A. Davis in the chair—the accounts were examined and passed, showing—Balance of last account, 163*l.* 6s. 7d.; call 14th Nov. last, 5s. per share, 163*l.* 5s. = 326*l.* 11s. 7d.—By Nov. cost, 196*l.* 19s. 6d.; ditto Dec., 73*l.* 14s. 2d.: leaving balance in favour of company, 55*l.* 17. 11d.—A call of 5s. was made payable immediately. The following report was read:—

*Jan.* 16.—I beg to inform you that, since our last general meeting, we have driven the 40 fm. level west on the gossan lode 9 fms. 6 in., the lode varying in size from 2 to 3 ft. wide, composed of mundic, quartz, and peach, producing also, in some places, good stones of copper ore. In the course of the past week there has been a good stream of water issuing from the end, from which, and other favourable appearances, we anticipate shortly getting into more ore and better ground. In this same level we have also driven south towards the south lode 4 fms. 2 ft.; but the ground proving harder than was expected, a suspension of it has been determined on for the present. In our 50 fm. level we have driven east on the south lode 7 fms. 1 ft. 6 in., the same being on an average 2½ feet wide, composed of mundic, capel, and quartz, and some good copper ore, portions of which have been brought to the surface and dressed; the lode in this level has always maintained a good size and kindly appearance generally, producing ore more or less. Some part of the ground through which we have driven (but for the exceedingly low standard of copper ore) would set on tribute, from this and other parts of the mine. We sold, on Friday, the 22d Dec. last, 18 tons 11 cwts. 3 qrs. of copper ore, which will produce about 96*l.*

## TREVISKEY AND BARRIER MINES.

The following is the statement of accounts for October and November last:—

Treviskey.—To labour cost, 640*l.* 2s. 4d.; tribute, 161*l.* 11s. 1d.; merchants' bills, 260*l.* 14s. 7d.; Tresavean adventurer's engine cost, 97*l.* 5s. 3d.= 1159*l.* 18s. 3d.—By ores sold, less lords' dues (101*l.* 18s. 8d.), 1118*l.* 12s. 3d.; balance from last account, 7*l.* 13s. 4d.: leaves balance of loss, 33*l.* 7s. 8d.—The following report was read:—

In Michael's shaft, sinking below the 260 fm. level, the lode is 3 ft. wide, producing stones of ore; in the 260, driving east of Michael's, the lode is also 3 ft. wide, and producing stones of ore. In the 248, driving east of Michael's, the lode is 2½ ft. wide, and producing 5 tons of ore per fm.; in the winze, sinking below the 248, east of Michael's, the lode is 3 ft. wide, producing 6 tons of ore per fm. In the winze, sinking below the 236, the lode is 2 ft. wide, and producing 2 tons of ore per fm. In the winze, sinking in the 224, east of Michael's, the lode is 2 ft. wide, producing 4 tons of ore per fathom. At Williams's old sump shaft, we are driving the 40 fm. level north and south at 5*l.* per fm.; and have now 4 fms. to drive to cut the north lode, and from 20 to 30 fms. to intersect the south lode. We sampled 422 tons of ore on the 10th instant—being about 70 tons more than the quantity named in our calculation of the 20th of November last; this was caused by a rather unexpected improvement in two of our pitches. For January and February, we expect to raise 370 tons of ore.

Barrier.—Ores sold, less lord's dues (8*l.* 10s. 8d.), 110*l.* 13s. 8d.; short divided last account, 1*l.* 1s. 1d.=111*l.* 14s. 9d.—By labour cost, Oct. and Nov., 49*l.* 4s. 7d.; tribute, 18*l.* 1s. 11d.; merchants' bills, 4*l.* 14s. 6d.; Tresavean adventurer's engine cost, 11*l.* 6s. 4d.: leaving balance in favour of the adventurers of 28*l.* 7s. 5d., to which add balance at the last account, leaves in hand 93*l.* 7s. 3d. The following report was read:—

In the 260 fm. level, driving west from Treviskey, the lode is 2 ft. wide, producing stones of ore. In the winze, sinking below the 248, the lode is also 2 ft. wide, and producing stones of ore.

## WHEAL TRELAWNY MINING COMPANY.

A general meeting of shareholders was held at Webb's Hotel, Liskeard, on Tuesday, the 23d inst.—Capt. John Bryant, in the chair.—The accounts for Oct. and Nov., showing balance (profit) of 67*9l.* 8s. 11d., were examined, passed, and added to the amount in favour at the end of September last, amounting to 1330*l.* 1s. 2d. A dividend of 3*l.* per 260th share was now declared. It was resolved that, at the expiration of the agreement between Wheal Trelawny and Wheal Trehane adventurers, on the 17th Feb. next, the Wheal Trehane pay to Wheal Trelawny, for use of flat-rods and water for dressing their ores, 27*l.* 10s. per month; and in the event of the flat-rods being taken off, which the Trelawny adventurers reserve to themselves the power to do at any time, the water for dressing is to be continued until the next, or any future, meeting of Trelawny adventurers, at the rate of 100*l.* per annum.

*Abstract of Accounts, to the end of November.*

| | | | |
|---|---|---|---|
| October cost | £1283 12 2 | Nov. 20—91*t* 1*c* 3*q* at £16 10 6 | —1505 3 0 |
| November ditto | 1285 5 11 | Dec. 17—99 15 3 at 17 3 6 | 1713 4 0 |
| Balance carried forward | 679 8 11 | Wh. Trehane adventurers | 38 0 0 |
| Total | £3251 7 0 | Total | £3251 7 0 |
| Div. of 3*l.* per 260th share | £ 780 0 0 | Balance brought forward | £ 679 8 11 |
| Balance carried to next acc. | 550 1 2 | Ditto from end of Sept. | 650 12 3 |
| Making | £1330 1 2 | Making | £1330 1 2 |

The following report, from Capt. John Bryant, was read to the meeting:—

*Jan.* 23.—In the 72 fm. level, at Phillips's shaft, we have extended on the lode north and south 11 fms. 3 ft., where it will average 2½ ft. wide, and worth 6*l.* per fm. In the north end the lode is at present 3 ft. wide, composed of horn-spar, can, mundic, and lead—worth 6*l.* per fm. In the south end the lode is 2 ft. wide, and worth 7*l.* per fm. The 62 fm. level north has been extended, during the last two months, 5 fms. 5 ft., where the lode is found 3 to 5 ft. wide, composed of quartz, can, mundic, and lead—worth, on an average, 12*l.* per fm.; the lode in the present end is 4 ft. wide, 2 ft. of which is can and lead, worth 28*l.* per fm.; this level south has been extended 9 fms. 2 ft. 6 in., where the lode is small, producing stones of ore. The lode in the end is 18 inches wide, composed chiefly of can, with stones of ore. The stopes in the back of this level are yielding a fair quantity of ore. The lode in the winze, north of the shaft sinking under this level, is worth 8*l.* per fm. Trelawny's shaft is sunk 10 fms. 1 ft. below the 52 fm. level, where the ground is still hard, and as a cross-cut would be very expensive to drive in this ground, I would advise sinking to the 72 fm. level, before we intersect the lode again from the shaft. The 52 fm. level has been extended, north of this shaft, in the last two months, 3 fms. 5 ft., where the lode is worth, on an average, 7*l.* per fm.; the lode in the end is worth 6*l.* per fathom—the ground here is still hard. The stopes in the back of this end, in the 42 fm. level, are, on the whole, looking pretty well. There is nothing of importance yet met with in the 22 cross-cut east—the stratum here is compact dark blue killas, interspersed with small veins of carbonate of lime. The tribute department in this part of the mine is yielding a fair quantity of ore. At the North Mine, the 30 fm. level, north of Smith's shaft, is driven, in the last two months, 14 fms. 4 ft. 6 in., where the lode will work at a moderate tribute. The lode in the end is 2 ft. wide, composed of horn-spar, can, and lead, worth 3*l.* per fm. (price for driving, 48s.); the pitches in the back of this level are not yielding so much ore as was anticipated. We sampled, on Friday last, 94 tons of lead ore, which was for sale on the 27th inst.—The miner's earnings for the last two months average 2*l.* 12s. 6d. each, per month.

## Wheal Buckets.—At a meeting of adventurers, held at the mine, on the 19th inst., the accounts were examined and passed, showing—Balance from the four months' account ended October last, including loss on subsist, and on Mr. Wyld's shares, 68*l.* 14s. 6d.; labour cost (Nov. and Dec.), 487*l.* 2s. 8d.; merchant's bills, 40*l.* 19s. 6d.—157*l.* 16s. 8d.—By ores sold (less dues), 21*8l.* 19s. 5d.; tin ditto, 194*l.* 12s. 5d.; proportion of 27 relinquished shares, 98*l.* 18s. 2d.: leaving balance against the mine to end of Dec., 105*l.* 11s. 6d.—It was resolved, that the workings should be continued three months longer; that stringent measures be adopted to collect the back cost; and that the mine be worked at the smallest expense possible—Capt. W. Truran to be retained as the only agent, and J. Mayne as dresser.

West Treasury.—At a meeting of adventurers, held at the mine, on the 24th inst., the accounts were examined and passed, showing—Labour cost for five months ending Nov. last, 1735*l.* 9s. 7d.; merchants' bills, 815*l.* 8s. 3d.—2550*l.* 17s. 10d.—By tin sold, 16*l.* 11s. 4d.; copper ores ditto, 2184*l.* 0s. 10d.; balance last account, 23*l.* 0s. 4d.: leaving a loss of 327*l.* 5s. 2d.—It was resolved, that the aforesaid loss be divided, and forthwith collected.—A report from the agents, Capts. T. Richards and J. Delbridge, was read, which stated,

that from the bad state of the boilers, a partial stoppage of the 60 and 50 fm. levels had taken place, and that the men were prevented from taking the ore from the backs; and these points having been the most productive, it had seriously diminished the amount of returns; that since July there had been opened 427 fms. 2 ft. 6 in. in levels, shafts, and winzes; that their resources for meeting the expenses of the mine depend on the lower levels, and the present state of the boilers preventing operations there, they knew not what to advise, but must leave it to adventurers at the meeting to decide what course to pursue.

WHEAL MARY ANN.—At a two-monthly meeting of adventurers, held at the White Hart Inn, Liskeard, on the 24th inst.—Capt. P. Clymo, jun., in the chair—the accounts were examined and passed, showing—Lead ore sold (61 tons 18 cwts. 2 qrs., at 16*l.* 3s. 6d. per ton), 1000*l.* 18s. 5d.; ditto computed, 140*l.*—1140*l.* 18s. 5d.—By labour cost, 743*l.* 14s. 1d.; merchants' bills, 215*l.* 9s. 1d.; balance last account, 42*l.* 1s. 9d.—leaving balance in favour of the company, 129*l.* 13s. 6d. A report from the agent was read, which stated that the lode in the 50 fm. level would produce 15 cwts. per fm.; in the 40 fm. level, worth 8*l.* per fm.; ditto south, 8 cwts. per fm.; in the 40 fm. level, north of Pullard's, 8 cwts. per fm.; south of ditto, 7 cwts. per fm.; and seeing the balance was in favour of the adventurers, Capt. Clymo considered, from the prospects, that they should go on increasing it.

## JOINT-STOCK COMPANIES' WINDING-UP ACT—WHEAL LOVELL MINING COMPANY.

LORD-CHANCELLOR'S COURT—JAN. 25-26.

This was an appeal on behalf of the company to discharge an order of the Vice-Chancellor Knight Bruce, made the 14th December last, on the petition of James Wyld, Esq., M.P. The petition was presented under the above Act, and prayed the dissolution of the company, either forthwith or conditional, on the non-fulfilment of such terms as the court should think fit.

It appeared, from the evidence filed in support of the petition, that in November, 1845, Mr. Wyld agreed to take five shares in the Wheal Lovell Mining Company, and duly paid the first call of 5*l.* per share thereon; soon afterwards he became dissatisfied with the management and affairs of the company, and gave notice to the purser of his intention to relinquish the shares so held by him, and of retiring from the company, and this was resisted by Mr. Carne, the purser of the mine, who claimed a large sum of money from Mr. Wyld, for alleged costs of the mine. Mr. Carne continued to treat Mr. Wyld as an adventurer in the mine, and, from time to time, sent him notices of meetings and calls made by the company. In February, 1848, an action was brought against Mr. Wyld, by a creditor of the company, to recover 160*l.* for goods sold and delivered for the use of the mine.

Under the fifth section of the Winding-Up Act, Mr. Wyld gave notice to the company of this action having been brought against him, and claimed an indemnity against the damages and costs of the action, or that the action should be stayed. No notice was taken by the company of this notice, and the action against Mr. Wyld proceeded, and ultimately a verdict was returned against him for the company's debt.

Mr. Wyld presented his petition to the Court of Chancery, and, after considerable argument, an order was made by the Vice-Chancellor K. Bruce, that Mr. Wyld should be repaid by the company the debt and taxed costs of the action, and also his own costs, after deducting therefrom the amount due from Mr. Wyld for calls; and in default of such payment, it was declared that the company ought to be dissolved, and the affairs wound up.

Against this order the company now appealed.

Mr. Rolt and Mr. Follett appeared for the company to support the appeal, and at considerable length contended that mining companies were excluded from the operations of the Winding-up Act, and that such Act only extended to Joint-stock Companies within the meaning of the 7th and 8th Vic., c. 111, and 8th and 9th Vic., c. 98, being the Acts recited in the first section of the Winding-up Act. They also contended that, if his Lordship would be of opinion that mining companies did come within the operation of the Act, then, ..... not a case ..... which the court would exercise its discretion, in making an order to wind up ..... airs of the company—it being in a perfect solvent state and the other contributors anxious of carrying on the company.

Mr. Bacon and Mr. J. H. Palmer appeared for Mr. Wyld, and submitted that the Act clearly included mining companies, inasmuch as the second section was expressly framed to meet all associations or companies formed for the purpose of working mines and minerals, and was a special enactment for that purpose. It was also shown that the company had been working for four years at a very considerable loss, and were now considerably in debt; and further that the action had been brought against Mr. Wyld at the instigation of Mr. Carne, for the purpose of forcing Mr. Wyld to pay amounts claimed, to which he considered he was not subject, and from which no adventurer would be safe; but innumerable actions might be brought for such purpose. It was also submitted, that the court had not released Mr. Wyld from the calls due, as, by the order made, the amount of calls due as his quota would be paid by him. The requisite notice to the company had been given, and it was contended that the appeal must be overruled.

Mr. Rolt replied to the arguments, and the Lord Chancellor stated that he would give his judgment on Monday morning.

## ACCIDENTS.

*Dreadful Colliery Explosion—Eighty-three Lives Lost.*—Another of those awfully destructive visitations, which unhappily so often throw the direst gloom over our coal mining localities, and one almost unprecedent in the history of colliery explosions, has recently taken place at the Darley Main Colliery, near Barnsley, Yorkshire, and near to the Oak's Colliery, where, about two years since, it was our painful duty to record a similar calamity, by which 73 human lives were sacrificed. It appears that the workings of the colliery are about 1100 yards in length, and it has been regularly worked for the last 10 or eleven years by Mr. Jarratt; but latterly by Messrs. Jarratt and Jeffcock. On Wednesday morning, all hands went down to work as usual; and it is said that the overlooker had been his previous rounds to see that all was safe. All went on well until 20 minutes to 12 at noon, when a violent explosion took place, which was distinctly heard by the men at surface. The alarm, of course, immediately spread; and, in about 40 minutes, the air was sufficiently pure to allow assistance to be sent down the shaft; 27 were brought out alive—three of whom are since dead. From the dreadfully mutilated state of the roofs and sides of the workings, nothing further could be done until Thursday morning; vigilant measures were taken, a number of masons were employed to wall up the parts that were blown down; and, as the rubbish was removed, the dead bodies were carried to the shaft, and raised to surface. The result proves that 107 men and boys were in the pit—of whom, as above stated, 24 only survive—leaving EIGHTY-THREE as the number of human beings launched into eternity in one and the same instant of time. The 24 survivors were in a part of the workings near the shaft, and less affected by the explosion; they are injured, but not dangerously. It would be needless for us to attempt to describe the scene that ensued on bringing the bodies to surface; it must be left for our readers, to conjecture—widows and female children of all ages, running in all directions, to ascertain the fate of husbands, fathers, and brothers; nor can we repeat the rumours afloat as to the cause. The inquest was commenced yesterday, at the Mason's Arms, Worsborough Dale, before Mr. Badger, the coroner of the district. The evidence given at present elicits nothing as to the cause, state of the ventilation, &c.; it appears that the shaft was 131 yards deep, and it is feared other bodies are yet in the levels. The inquest will, most probably, be a protracted one, the proceedings of which we shall carefully notice.

*Monkwearmouth Colliery.*—John Elliott, an underviewer, in attempting to descend the pit on Sunday morning, was accidently thrown out of the cage, and precipitated to the bottom of the shaft, and was literally dashed to pieces. His remains presented an appalling spectacle. Another man, who was with Elliott, was somewhat miraculously saved, by falling on what is called a saddle in the shaft, and escaped comparatively uninjured. It is not understood that blame is attached to any one for this melancholy accident, though the engine-man was taken into custody, charged with carelessness, but we hear the coroner's inquest has acquitted him.—*Durham Advertiser.*

*Accident at Witton Park Iron-Works.*—On the 16th inst. an accident occurred to one of the refining-furnaces, at Witton Park Iron-Works, by which a workman, named Samuel Saul, was severely burnt. It appears they were tapping the furnace at the time, and the tap which is used for discharging water upon the metal to cool it, after it is run out of the furnace, from some cause or the other, fell from the end of the pipe, and the water rushed into the furnace among the boiling metal, which caused the explosion.

*Dudley.*—A collier, named Spiers, sustained a severe fracture of his thigh, among other injuries, by a fall of coal, while down a pit connected with Messrs. Bagnall's Colliery, Dudley Port.—J. Dyke was killed by a fall of coal at the Bunn's-lane Colliery.

*At West Auckland*, Thomas Ellis, a hewer at St. Helen's Colliery, while working with Christopher Liddell in the "broken," and removing a pillar, was struck down, his thigh broken, and his spine injured, by a fall of coal from the roof. He died at home three hours afterwards.

*At Lofthouse, in Cleveland*, Robert Wardell, labourer, was killed in the Earl of Zetland's alum-works, by the fall of a stone from the roof.

*William Pit, Whitehaven.*—Josiah Topping, joiner, was at work on a plank placed across one of the shafts of the pit, when it accidentally broke, and the deceased fell a depth of 35 yards, by which he was so severely injured, that he died instantly.

*Abercynon.*—G. Godwin was sadly burnt by an explosion in the New British Iron Company's Peter Pit.

*Gorse Colliery, Swinton.*—J. Morris was killed by a huge stone falling on him.

STEAM-BOILER EXPLOSIONS IN THE UNITED STATES.—An interesting report has just been presented to Congress, from the commissioners of patents, upon the subject of explosions in American steam-boilers. The report includes the number of accidents of this character from 1816 to 1848, and shows the average of deaths caused, of those wounded, and the pecuniary loss. The summary stands thus in a total of 233 explosions:—Of the total loss of life and property, calculated from the average of the given cases.—Pecuniary loss—233 cases, at $13,802 each, $3,099,366.—Loss of life—11 each, 2563.—Wounded—9 each, 2097—total killed and wounded, 4660.

RAILWAYS IN THE UNITED STATES.—A letter dated New York, January 10, says:—"American railways continue progressing to an extraordinary extent. Summing up these works to the close of 1848, it appears that the entire expenditure within the last 25 years in the projection and construction of railroads in America, will not fall short of 1,000,000,000 dols., and that their influence in facilitating business, in reducing the expenses and time of travel, and in opening up new regions of country, has given increased value to property of twice that amount; and yet their influence is only just beginning to be felt. We may add, that within a month 282 miles of new railroad will be added to that already in use in this country. This addition is made up as follows:—New York and Erie, 127 miles; New York and New Haven, 60 miles; Nashua and Worcester, 45 miles; Harlem 30 miles: total, 282 miles."

EXTRAORDINARY CASE OF BILIOUS ATTACK, INDIGESTION, AND FLATULENCY CURED BY HOLLOWAY'S PILLS.—Khairatee Khan, a native merchant of Patna, in the East Indies, suffered for years from bile, indigestion, and flatulency, and although he consulted the most eminent surgeons of the province, yet he derived no benefit from their treatment, but gradually became more debilitated. Having one day a severer attack than usual of these dreadful maladies, he determined to try Holloway's pills, and this fine medicine, which has attained such high repute throughout the world, very soon reinstated him in perfect health; and in gratitude for the benefit, he desires their wonderful cure to be made public.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

## TREVISKEY AND BARRIER MINES.

SIR,—Upon receiving the printed statement of accounts of Treviskey and Barrier this morning, I was much disappointed to find Treviskey in debt 33*l.* 7s. 8d., instead of receiving my usual dividend, and my disposition was immediately to sell my share. On going to my broker, however, I was agreeably surprised to find that, so far from being in debt, there were 361 tons of ore, yielding 1983*l.* 15s. in cash, sold on the 30th Nov., but which is not even noticed in the accounts, which only credit ore sold on 28th September against the cost of October and November. Again, to-day 422 tons of Treviskey ore are for sale in Cornwall, and I am told will realise upwards of 2000*l.*, so that, in reality, the pursers will have 4000*l.* in hand, instead of the mine being indebted to them 33*l.* 7s. 8d., and I am assured I may expect 15*l.* per share dividend the next four months. So far this is very satisfactory; but I would ask you, is it fair to those shareholders who, like myself, depend chiefly upon the respectability of the pursers to get correct statements, that such an account as now is circulated by them should be allowed to pass over in silence, or without explanation. To those in the secret, and who job in the shares, it may be all very well, as enabling them to buy cheap; but I do hope, for the future, we shall have more explicit statements.—A SHAREHOLDER: *London, Jan. 25.*

## MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

The attention of the mining world will now be considerably attracted by the cobalt mines, in Cumberland, which bid fair to rival in value—nay, to surpass in permanency—even the sanguine expectations entertained of California. The above extract* needs no comment from us, except that our readers may require to be informed as to the use of the oxyde of cobalt in our manufactories. It is there applied to substantiate the most beautiful and permanent colour now known, far exceeding the richness of any obtainable from the *Lapis Lazuli*, and in a different shade, surpassing the celebrated die extracted from the Murex, and well known as the Tyrian purple. In our potteries, glass manufactories, printing offices, and a variety of other processes, this article now forms a staple commodity. Its price per lb., frequently three guineas, renders it as valuable as gold dust, being obtainable at far less pains and cost. It will be quite evident, on comparing even this price with the above statement, in a mine of many levels like the Keswick, that we are likely to derive immense home advantages from this material. A level producing 2000 tons of this precious substance, however reduced the per centage on the cwt., must give, at the price stated, an enormous profit to the company. Nor is there any fear of this article either passing out of demand, or of its glutting a market where it is so extensively required. It may be necessary to add, that the party who has signed the above statement,* is the highly respectable agent to the Derwentwater property, now connected with Greenwich Hospital, in the immediate locality of Keswick—that he has no connection with the present company, and, therefore, a more competent and impartial witness could scarce have been selected.—[* These remarks refer to a report on the Keswick Mines, which is inserted among our Mining Correspondence.]

THE LEAD MINERS OF NENTHEAD.—These sons of industry have had a good division at the beginning of the new year. It is not, perhaps, generally known, that the miners employed at Nenthead, near Alston (and those, also, we believe, employed in other lead mines), receive what is called "subsistance money," from week to week, all the year round (10s. is the sum); and at the end of the year each workman is paid whatever surplus may be due to him, or is debited with whatever sum he may have drawn beyond his earnings. Occasionally he receives as much as 100*l.*, and it is very seldom that he is brought in debtor. At the late reckoning the "pay" (as it is technically called), exceeded by 1000*l.* the amount that has been divided in any previous year for the last quarter of a century.—*Gateshead Observer.*

BIRMINGHAM CANAL NAVIGATIONS.—The ordinary meeting of proprietors, of the Birmingham Canal Company, was held yesterday.—R. Scott, Esq., in the chair, when the usual half-yearly dividend of 2*l.* per share was declared, and it appeared that during the last two months the traffic had been greater than at at any time during 1847—the most prosperous year of the company.

## BLACK TIN

| *Mine.* | *Tons.* | *Price.* | *Purchasers.* |
|---|---|---|---|
| Rumaford Combe | 7 | £33 0 0 | Calenick Co. & Williams. |
| Drake Walls | 4½ | 46 12 6 | Williams and Co. |
| ditto | 5 | 38 10 0 | J. H. Enthoven & Co. |
| ditto | 4½ | 26 15 0 | Calenick Smelting Co. |
| ditto | 2½ | 40 0 0 | J. H. Enthoven & Co. |
| Polberrow | 17½ | 47 2 6 | Calenick Co. and Williams. |
| ditto | 5½ | 43 13 6 | Bisco Company. |
| ditto | 3½ | 38 7 6 | Daubuz. |

## NEW PATENTS.

W. Boggett, St. Martin's-lane, Middlesex, manufacturer, for improvements in methods and machinery for obtaining and applying motive power.

H. B. Barlow, Manchester, for improvements in the manufacture of pile-cut fabrics, and in machinery or apparatus applicable thereto. (Being a communication.)

S. Brown, jun., Lambeth, Surrey, engineer, for improved apparatuses for measuring and registering the flow of liquids and of substances in a running state, which apparatuses are in part also applicable to motive purposes.

T. Robinson, Leeds, flax-dresser, for improvements in machinery for breaking, scratching, cutting, heckling, dressing, combing, carding, drawing, roving, and spinning flax, hemp, tow, wool, silk, and other fibrous substances, and in uniting fibrous substances.

C. de Bergue, Arthur-street West, London, engineer, for improvements in steam-engines, in pumps, and in springs for railway and other purposes.

E. Slaughter, of the Avonside Iron Works, Bristol, engineer, for improvements in marine steam-engines.

R. Reece, of London, chemist, for improvements in heating peat and obtaining products therefrom.

C. H. Paris, of Paris, France, for improvements in preventing the oxidation of iron. (Being a communication.)

W. H. Barlow, of Derby, for improvements in the construction of permanent ways for railways.

R. Johnson, of Blackburn, Lancashire, gentleman, for certain improvements in the manufacture of malted grain, and in vinous fermentation; also improvements in brewing, and in the machinery or apparatus connected with the above or similar processes.

W. Pim, of the Borough of Kingston-upon-Hull, engine and boiler maker, for certain improvements in propelling ships or vessels.

R. Shaw, of Portlaw, Waterford, cotton spinner, and S. F. Cottam, of Manchester, machinist, for certain improvements in machinery for preparing, spinning, and doubling cotton, wool, flax, silk, and similar fibrous materials.

J. T. Tyler, of the firm of Ashmead and Tyler, Mount-street, Grosvenor-square, hatters, for certain improvements in hats, caps, and hat cases.

H. Needham, Vine-street, Piccadilly, Westminster, gun-maker, for certain improvements in fire-arms.

### DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

W. Hattersley, Ratcliffe-highway East, Passengers' signal light.
J. Tyler and Son, Warwick-lane, improved ball-cock.
H. L. Nicoll and D. Nicoll, Regent-street, coats.
E. Frisby, Marylebone-street, Paragon boot-heel.
T. Craddock, Birmingham, pressure guage.
W. K. Harvey, Blurton, apparatus for cleaning potters' materials from particles of iron.
T. H. Busbridge and C. F. Busbridge, East Malling Mills, Kent, dandy rollers for paper-making.
J. Tasker, Liverpool, anti-collision signal lamp for shipping and boats.
J. Hartley, the Mills, Otley, Yorkshire, improved mill.—*Mechanics' Magazine.*

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 14 6—Chester Main 14—Holywell Main 13 6—New Tanfield 13—Original Tanfield 11 6—Ord's Redheugh 12 6—Smith's Pontop 11—Tanfield Moor 13 6—Wylam 13—Wall's End Hilda 14 3—Wharncliffe 14 3—Eden Main 14 6 to 15—Lambton Primrose 14 9—Braddyll's Hetton 15 6—Lyons 15—Hetton 16 6—Haswell 16 9—Hutton 16—Lambton 16—Russell's Hetton 16—Shotton 15—Stewart's 16 to 16 3—Benson 14—Kelloe 13—Adelaide Tess 13 9—Seymour Tess 15 6—Tess 16 3—West Hetton 14 6—Anthracite 24—Cowpen Hartley 16—Derwentwater Hartley 14 6—Sidney's Hartley 15.—Ships at market, 258; sold, 74.

WEDNESDAY.—Chester Main 14—Adair's Main 12 6—Holywell Main 13 6—New Tanfield 13—Ord's Redheugh 12 6—Ravensworth's Pelaw 14 3—Tanfield Moor 13—Walker's Primrose 12—Wylam 13—West Hartley 13 6—Wall's End Brown's 13—Brown's Gas 12 6—Gosforth 13 9—Hilda 14—Eden Main 14 6 and 14 9—Belmont 13 3—Braddyll's Hetton 15 6—Bell 14 6—East Hetton 14—Hetton 16 3—Jonassohns 13 6—Lambton 15 9—Whitwell 14—Benson 14—Caradoc 16—Hudson's Hartlepool 14—Thornley 14 6—Denison 14 6—Cowpen Hartley 13—Hartley 14 6—Sidney's Hartley 15.—Ships, 223; sold, 73.

FRIDAY.—Chester Main 14—East Adair's Main 12 6—New Tanfield 13—Tanfield Moor 13—Wylam 13—Wall's End Brown's 13—Brown's Gas 12 6—Framwellgate 14 6—Hedworth 13—Riddell's 15 6—Eden Main 14 6—Braddyll's Hetton 15 6—Jonassohns 13 6—Russell's Hetton 15 6—Stewart's 16—West Kespier 15—Hudson's Hartlepool 14—South Hartlepool 14 6—Thornley 14 6—Barrett 14—Tess 15 9—Elgin 14 6.—Ships, 162.

## JOINT-STOCK BANKS.

| *Shares.* | *Companies.* | *Paid.* | *Div. p. cent.* | *Price.* |
|---|---|---|---|---|
| 22,500 | Australasia | £40 | £3 | £19 |
| 20,000 | British North American | 50 | 6 | 39 |
| 20,000 | Colonial | 25 | 5 | 5 |
| — | Commercial of London | 20 | 6 | 18½ |
| 4,000 | Ionian State | 25 | 6 | 24 25 |
| 60,000 | London Joint-Stock | 10 | 6 | 15½ 16 |
| 20,000 | London and Westminster | 20 | 6 | 24 |
| 10,000 | National Provincial of England | 25 | 5 | 33½ |
| 20,000 | National of Ireland | 25½ | 5 | 17 |
| 20,000 | Provincial of Ireland | 25 | 6 | 41 |
| 4,800 | Ditto New | 10 | 8 | 14 |
| — | South Australia | 25½ | — | 28 |
| 20,000 | Union of Australia | 25 | 6 | 25 |
| 10,000 | Ditto New | 5½ | 6 | 2½ 3½ |
| 60,000 | Union of London | 10 | 6 | 10½ |

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 20, was—No. of passengers, 16,949.—Amount of money, £67 14s. 1d.

## Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, *Saturday morning Eleven o'clock.*

| | |
|---|---|
| Bank Stock, 7 per Cent., 195 6 | Belgian, 2½ per Cent., 45 |
| 3 per Cent. Reduced Ann., 91¾ ¾ | Dutch, 2½ per Cent., 49¾ ¾ |
| 3 per Cent. Consols Ann., 91¾ ¾ | Brazilian, 5 per Cent., 79¾ 9 |
| 3½ per Cent. Ann., 88¾ ¾ | Chilian, 3 per Cent., 50 2 |
| Long Annuities, 8¾ | Mexican 5 per Cent., 26¾ 6 |
| India Stock, 10½ per Cent., 244 | Russian, 5 per Cent., 105 |
| 3 per Cent. Consols for Acc. 91¾ ¾ | Spanish, 5 per Cent, 15¾ |
| Exchequer Bills, 1000*l.* 2d. 49 46 pm. | Ditto 5 per Cent., 25¾ ¾ |

MINES.—The mining share market has been generally firm during the week, and gives promise of continued stability. In the leading mines there are more inquiries for shares than there are sellers to meet the demand; indeed, not only in mining, but the railway and share markets in general, have steadily improved, and hold out symptoms of remaining firmness, affected, doubtless, in this favourable manner, in a great measure, by the healthy state of the funds—Three per Cent. Consols having advanced from 90, last week, to 91¾ yesterday.

Wheal Buller and South Wheal Basset shares have been in request; the former is reported to have considerably improved, and no sellers in the market. —Treviskey and Barrier, and Stray Park Mines are also reported to have much improved.—East Wheal Rose and Devon Great Consols have been in demand at former quotations; but we are not advised of any sales having been effected at those prices.—In Mendip Hills, East Tamar, and Trehane, there has been some considerable sales.

Shares in the following mines have been done during the week—viz.: Wheal Trelawny, Treviskey and Barrier, East Tamar, Condurrow, Kingston Down Consols, Lewis, Tincroft, Tamar Consols, South Basset, Wheal Trehane, Stray Park, Drake Walls, Birch Tor, Mendip Hills, &c.

The directors of the Devon Great Consolidated Mines declared, on Wednesday last, their usual two-monthly dividend of 5*l.* per share, or 5120*l.*, out of the profits arising from sales of ore in the months of October and November, retaining in hand, for current expenses, cash and ore bills, and Exchequer bills, applicable to the purchase and erecting of more powerful machinery when considered necessary, and to the gradual development of their sett, the large sum of 17312*l.* 11s. 2d. The mine is stated to have considerably improved, especially in the Wheal Fanny sett.

The usual bi-monthly meeting of Wheal Trelawny adventurers was held on Tuesday, the 23d, for auditing the accounts for October and November, when a dividend of 3*l.* per 260th share was declared. The balance sheet shows a profit of 679*l.* 8s. 11d. on the two months' workings, which, added to credit carried from the previous meeting, gave a balance of 1830*l.* 1s. 2d. The silver-lead ores raised during the period, realised 3218*l.* 7s.; the balance carried to next account is 550*l.* 1s. 2d. The agent's report represents the mine in a very flourishing position; 94 tons were sampled on Friday last.

West Wheal Treasury meeting was held on the 24th Jan., when the accounts for the five months ending Nov. were audited, and a balance of 327*l.* 5s. 4d. was found against the company—being a division of 1*l.* 6s. 7d. per share. The mine is represented as progressing favourably.

The half-yearly meeting of the Cobre Mining Company was held on Tuesday last, when a dividend of 1*l.* per share was declared, after providing for the engagements of the company and the reserve fund. The directors' report stated that an increase of returns for the first 11 months, in 1848, had exceeded that of the corresponding period of 1847 by 4763 tons; the quantity raised, in 1848, amounted to 19,792 tons. The directors very justly complain of the low price given by the smelters for copper ore, comparing the market price of copper at the time. They were prepared for a change, when the commercial world generally was depressed, in consequence of the monetary affairs of 1847, and the unsettled state of the continent subsequently; and the directors, like all other adventurers in foreign copper mines, expected that, when the importatation duty on copper ores was taken off, they would benefit by the change. But "the ore of this company sold for 2*l.* per ton less in 1848 than in 1847, which, upon the quantity already sold, would amount to 24,000*l.*; and, if the duty paid in 1847, and remitted in 1848, be allowed for, would still leave a difference of 14,000*l.* or 15,000*l.*" Arrangements have been made by the company for smelting a portion of the ores at the mines.

The Wheal Buckets adventurers held a meeting on the 19th inst., to audit the four months' accounts ending October. The costs, including November and December, amounted to 1570*l.* 16s. 8d. The ores sold realised 413*l.* 14s. 10d., with proportion of relinquished shares, left a balance of 1058*l.* 11s. 8d. against the mine. It was resolved to give the mine a further trial of three months, after reducing the workings to the smallest possible expense.

Treviskey and Barrier bi-monthly account meeting, was held on the 22nd, for auditing the months of October and November. By Treviskey statement we find a balance of 33*l.* 7s. 8d. against the mine; but, it must be understood, that whilst October and November cost is charged, no credit is given for the ores sold in September and October, which bills are now due, and will give a balance in favour of the company. Barrier account gives a balance of 93*l.* 7s. 3d. in hand, as well as the copper ore bills coming due. The agent's report of the under ground operations is satisfactory: 422 tons was sampled on the 10th inst., and 370 tons were calculated for January and February.

Advices have been received from Mexico, per *Teviot*, from which it appears that in the Anglo Mexican Mines there was a total loss, on the four weeks, of $102, and the first step for abandoning the mine had been taken. In the Bolanos mines there had been a considerable falling off in Celestina and Bote ores, so much so that La Granda hacienda was still idle; there appeared on the account a loss, on the month, of $7693, but is accounted for by increased peculiar expenses. In United Mexican there had been an increase on the mine sales of $5269, and a decrease on the outlay of $2000, for the five weeks ending Dec. 2, as compared with the previous five weeks.

A few weeks since we noticed the discovery of a great silver district in the locality of Copiapo, and we now learn that $320,000 worth of silver, mostly in bars, had arrived at Valparaiso, and that a further discovery of immense value is stated to have been made there.

In the foreign share market there has been considerable business done; St. John del Rey, United Mexican, Australian and Barossa Range, Copiapo, Imperial Brazilian, and Bolanos, have changed hands.

By the Hull packet, *Linnet*, which arrived at Falmouth on Friday, the 19th inst., with the Brazilian mails, a freight of about 44,000*l.*, in gold, silver, and diamonds, have been received.

The St. John del Rey advices are to the 28th November, and furnish the returns for October at 121 lbs. troy, by which we find a profit on the month's workings of 3488*l.* 3s. 3d.; the costs being 3796*l.* 0s. 2d., and the produce 19211 oits., at 7s. 7d., realising 7284*l.* 8s. 5d. These returns appear to be the greatest ever yet attained, notwithstanding an unusual degree of sickness prevailing, and a general deficiency of manual labour. The gold extracted for 20 days' stamping in November is represented to be splendid; but the third portion of the month is not likely to prove so productive, and the aggregate for the month will give more than an average. The surface and other necessary operations are represented as progressing satisfactorily.

The Imperial Brazilian letters are to the 4th Dec. The gold report shows the produce from Gongo Soco, from the 3d November to the 2d December, to be 13 lbs. 11 ozs. 9 dwts.; from Bananal, for the same period, 16 lbs. 5 ozs. 19 dwts.—30 lbs. 5 ozs. 8 dwts. The total raised from the 1st of July—from Bananal, 157 lbs. 8 ozs. 17 dwts.; Gongo, 77 lbs. 8 ozs. 7 dwts.—235 lbs. 0 oz. 4 dwts. A remittance in gold of about 5500*l.* has been received. The commissioner's report is long, and explanatory of the operations pursued in bringing the Bananal Mine into good working order; but no important discovery had been made. The energies of the company will be directed to exploring new ground, from whence it is to be hoped that some valuable returns will be made to reward the perseverance of the enterprising proprietary.

The National Brazilian letters are to the 2d Dec.; the returns from Cocaes, from 3d Nov. to 3d Dec., mks. 12 8 5 50; Cuiaba, 26th Oct. to 26th Dec., mks. 12 1 1 47—mks. 24 4 7 25. The agents' report represents Cocaes in a more favourable position, which continued to improve up to the eve of the transmission of the advices. At Cuiaba, extensive stoping ground is about being laid open, from whence some good work is anticipated.

Dispatches have been received by the Australian Mining Company, the latest date being the 4th October. The captain's report from Tungkillo, of Sept. 1, states, that the lode, 40 fms. north of Goad's winze, is 5 feet wide, of solid copper ore, principally black sulphuret; in the stopes there is also a fine course of ore equal to the 40 end, but, being very hard, great progress cannot be made. The report of the 4th October states, that the lode in Goad's winze had not been cut through to the eastern wall; in the stopes, north of the winze, the lode continues good, producing 8 tons to the fathom, but not so productive as in the 40 north. Stephens's winze, which had been productive up to the 1st of September, was not looking so well at the latter date (4th of October). The lode in the other levels was generally poor, but continued highly promising. The operations hitherto have been principally confined to Baker's lode, with the exception of driving the deep adit north, on Horne's lode, which is strong, regular, and promising, and opening a 22-feet lode recently discovered. The quantity of ores raised in August was about 20 tons; in September, 45 tons; and it was calculated that it would be increased to 100 tons per month by Christmas. It appears that great returns are not anticipated above the adit levels—consequently, a steam-engine will be shortly required, to enable this promising adventure to be more fully or perfectly developed.

The following arrivals of specie have taken place during the week:—The Peninsular and Oriental Steam Company's ship, *Ripon*, arrived at Southampton, on Tuesday, with the heavy portion of the East India and China mails, having on freight 340 packages of specie—value, 122,000*l.* sterling. The West India Mail steam-ship, *Trent*, arrived at Southampton, on Thursday last, having on freight 826,363 for the Mexican dividends, $1,140,967 on merchants' account, 144 ozs. gold coin and dust, British coin—value, 8712 1135 lbs. 6 ozs. silver in bars, 37,465 francs, and 194 guilders—total, in specie and bullion, about 239,926*l.* sterling.

## PRICES OF MINING SHARES.

### BRITISH MINES.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 1000 | Abergwessin | 6 | 8 |
| 512 | Albert Consols | 1 | 2½ |
| 1024 | Alfred Consols | 8½ | 5 |
| 1000 | Antimony & Silver-Lead | 5 | 5½ |
| 1024 | Ashburton United Mines | 8½ | 10 |
| 1624 | Ballewidden | 9 | 18 |
| 128 | Balmoon Consols | 25 | 35 |
| 10000 | Banwen Iron Co. | 6 | 6½ |
| 1000 | Barristown | 5½ | 1½ |
| 4000 | Bedford | 2 | 2½ |
| 1244 | Birch Tor Tin Mine | 2 | — |
| 8000 | Blaenavon | 50 | 17½ |
| 100 | Botallack | 182 | 60 |
| 120 | Brewer | 5 | 7 |
| 10000 | British Iron, New, regis. | 12 | 7 |
| — | Ditto ditto, scrip | 10 | 10 |
| 128 | Budnick Consols | 32½ | 35 |
| 1000 | Cailington | 19 | 14 |
| 1000 | Camborne Consols | 5 | 4 |
| 20000 | Cameron's Steam Coal | 6 | 1 |
| 256 | Caradoe Copper Mine | 6½ | 3 |
| 256 | Caradon Mines | 22½ | 10 |
| 256 | Caradon United | 24 | 5 |
| 256 | Caradon Wh. Hooper | 21 | 8 |
| 1000 | Carn Brea | 15 | 100 |
| 3000 | Carthew Consols | 1½ | 5 |
| 128 | Charlestown | 220 | 60 |
| 512 | Coatlithe Hill | ½ | 1 |
| 500 | Combawn | 5½ | 3 |
| 128 | Comfort | 45 | 35 |
| 256 | Condurrow | 20 | 36 |
| 2560 | Cook's Kitchen | 14 | 2 |
| 1000 | Coombe Valley Quarry | 3½ | 4½ |
| 6500 | Cornish Mining Co. | 2 | 2½ |
| 20000 | Cornwall New Mining | 1 | 1 |
| 1000 | Copper Bottom | 1½ | 6½ |
| 1024 | Cosheen | 4½ | 20 |
| 212 | Craddock Moor | 23½ | 5 |
| 128 | Creeg Braws | 120 | 100 |
| 500 | Culvert Mine | 12½ | — |
| 1000 | Cwm Erfin | 3 | 4 |
| 300 | D. Prior & Buckfastleigh | — | — |
| 7100 | Derwent | 9½ | 5 |
| 645 | Devon & Courtenay Con. | 7½ | ½ |
| 1024 | Devon Great Consols | 1 | 230 |
| 1000 | Dinuvoe | 2 | 5 |
| 186 | Dolcoath | 30 | 15 |
| 2560 | Drake Walls | 5 | 4 |
| 10000 | Durham County Coal | 45 | 9 |
| 3000 | Dyfngwm | 10 | 12½ |
| 512 | East Alvenney | 5½ | 12½ |
| 2500 | East Birch Tor | 3 | 3½ |
| 112 | East Caradon | 47 | 47 |
| 2048 | East Crowndale | 6½ | 2½ |
| 512 | East Combe Silver-Lead | 6½ | 6½ |
| 128 | East Pool | 15 | 30 |
| 9000 | East Tamar Consols | ½ | ¼ |
| — | East Wheal Albert | 1 | 3 |
| 94 | East Wheal Crofty | 125 | 250 |
| 1024 | East Wheal Fortune | 2 | 3 |
| 128 | East Wheal Rose | 50 | 600 |
| — | East of Scotland Iron Co. | 5 | 1½ |
| 123 | East Wheal Seton | 14 | 10 |
| 1280 | Esgair Lli | 1½ | 3 |
| 256 | Exmoor Wh. Eliza | 6 | 9-10 |
| 513 | Fowey Consols | 40 | 45 |
| 1024 | Freiddi Llwyad Mines | 1½ | 3½ |
| 6400 | Gadafr | 2 | 2 |
| 4000 | Gen. Mining Co. for Irel. | 1½ | 1½ |
| 256 | Gonamena | 44½ | 16 |
| 128 | Goonvrea | 4 | 2 |
| 100 | Great Consols | 1000 | 250 |
| 1900 | Great Michell Consols | 1½ | ½ |
| 256 | Great Rosuggs Moor | 11 | 6 |
| 512 | Gt. Wh. Rough Tor Con. | 16½ | 11 |
| 1200 | Growa Slate Company | 5 | 5 |
| 256 | Gwinear Consols | 7 | 1 |
| 6000 | Helgaston Down Con. | ½ | 1 |
| 256 | Herodsfoot | 27 | 24 |
| 10000 | Hibernian | 12½ | 1½ |
| 239 | Hobb's Hill | 6 | 1½ |
| 1000 | Holmbush | 22 | 1½ |
| 1024 | Kingsett and Bedford | ½ | ¼ |
| 827 | Kirkcudbrightshire | 6½ | 2 |
| 2048 | Lamlereoe Wh. Maria | 15 | 2 |
| 252 | Lanarth Consols | — | 10 |
| 128 | Lelant Consols | 90 | 60 |
| 160 | Levant | — | 120 |
| 1000 | Lewis | 10 | 8 |
| 1000 | Llwyn Malces | 7½ | 7 |
| 3600 | Llynyi Iron | 50 | 80 |
| 256 | Lostwithiel Consols | 19 | 14 |
| 6000 | Marke Valley | 10 | 1½ |
| 5000 | Mandip Hills | 3 | 1½-8 |
| 5000 | Merionethshire Slate Co. | 1½ | 2 |
| 128 | Metha | 34 | 140 |
| 20000 | Mining Co. of Ireland | 7 | 4 |
| 256 | New East Crowndale | 3½ | 2½ |
| 128 | North Fowey Consols | 37 | 10 |
| 160 | North Pool | 45 | 500 |
| 140 | North Roskear | 5½ | 165 |
| 262 | North Wh. Leisure | 1½ | 2 |
| 15000 | Northern Coal Co. | 23 | 2 |
| 128 | Par Consols | 55 | 1000 |
| 8000 | Pennant & Craigwen | 2 | 2 |
| 100 | Penrhiw | 30 | 65 |
| 1024 | Penzance Consols | 16s 3d | 2 |
| 512 | Plymouth Wh. Yeoland | 6½ | 10 |
| 200 | Polsalth Consols | 5½ | 4½ |
| 2500 | Rhoswiddol & Bucheidon | 10 | 10 |
| 10000 | Rhymney Iron | 90 | 13 |
| 10000 | Ditto New | 7 | 6½ |
| 1000 | Rosewall Hill | 1 | 3 |

### BRITISH MINES—continued.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 256 | Rosewarva Mines | — | 12 |
| 2048 | Runnaford Coombe Tin | 2 | 7 |
| 128 | South Caradon | 5 | 400 |
| 1100 | South Dolcoath | 4 | 5 |
| 256 | Sth. Friendsh. Wh. Ann | 20 | 4 |
| 256 | South Molton | 5 | 12½ |
| 256 | South Tolgus | 10 | 50 |
| 256 | South Trelawny | 28½ | 3 |
| 2000 | South Wales Mining Co. | ½ | 1-1½ |
| 128 | South Wheal Basset | 110 | 150 |
| 124 | South Wh. Frances | 160 | 240 |
| 256 | South Wh. Josiah | — | 1½-2 |
| 1000 | South Wh. Maria | 2½ | 1½ |
| 10000 | Southern & Western, Irish | 2 | 4 |
| 280 | Spearne Moor | 30 | 40 |
| 256 | St. Austell Consols | 9 | — |
| 94 | St. Ives Consols | — | 320 |
| 128 | St. Michael Penkivel | 5 | 10½ |
| 999 | St. Minver Consols | 1 | 6 |
| 1000 | Stray Park | 43 | 20 |
| 9600 | Tamar Consols | 3 | 6½ |
| 1624 | Tavy Consols | 4 | 4 |
| 6000 | Tincroft | 7 | 6½ |
| 1000 | Tin Vale | 2½ | 3½ |
| 58 | Tokenbury | 170 | 10 |
| 256 | Tollpetherwin | 3½ | 5 |
| 256 | Tregordan | 2 | 8 |
| 256 | Trehane | 1½ | 30 |
| 6000 | Treleigh Consols | 6 | 1½ |
| 2000 | Trenance | 3 | — |
| 96 | Tresavean | 10 | 150 |
| 120 | Trethellan | 5 | 16 |
| 120 | Treviskey and Barrier | 130 | 87 |
| 268 | Trevean | 1½ | 5 |
| 100 | United Mines | 300 | 350 |
| 256 | Wellington Mines | 25 | 20 |
| 256 | West Caradon | 20 | 130 |
| 512 | West Fowey Consols | 40 | 12 |
| 256 | West Providence | 9 | 15 |
| 200 | West Seton | 40 | 210 |
| — | West of Scotland Iron Co. | 240 | 90 |
| 120 | West Trethellan | 5 | 30 |
| 256 | West United Hills | — | 4½ |
| 512 | West Wheal Frances | 1½ | 2 |
| 256 | West Wh. Friendship | 9 | 8 |
| 3725 | West Wheal Jewel | 11 | 1½ |
| 256 | West Wheal Tolgus | 21½ | 6 |
| 256 | West Wheal Treasury | 19 | 10 |
| 1024 | Whiddon Mines | 4½ | 3 |
| 5200 | Wicklow Copper | 5 | 8 |
| 197 | Wheal Adams | 75 | 30 |
| 1000 | Wheal Agar | — | 8 |
| 256 | Wheal Albert | 10 | 1 |
| 240 | Wheal Anderton | 23 | 15 |
| 128 | Wheal Ann | — | 50½ |
| 512 | Wheal Anna Maria | 6½ | 8 |
| 1024 | Wheal Ash | 4½ | 8 |
| 120 | Wheal Bal | 5½ | 20 |
| 256 | Wheal Benny | 14½ | 2 |
| 256 | Wheal Blencowe | 2½ | 5 |
| 256 | Wheal Bucketts | 20 | 5 |
| 256 | Wheal Calstock | 5 | 12 |
| 1024 | Wheal Coad | 1 | 4 |
| 268 | Wheal Courtenay | 12½ | 15 |
| 256 | Wheal Forteseue | 6½ | 3 |
| 388 | Wheal Franco | 27 | 18 |
| 128 | Wheal Harriet | 45 | — |
| 100 | Wheal Henry | — | 31½ |
| 1024 | Wheal Lawrence | 3 | 3 |
| 112 | Wheal Margaret | 79 | 250 |
| 512 | Wheal Mary Ann | 5 | 14 |
| 208 | Wheal Mary Consols | 60½ | 8 |
| — | Wheal Peninale | — | 12 |
| 210 | Wheal Prospect | 4 | 7 |
| 120 | Wheal Reeth | 41 | 150 |
| 128 | Wheal Rose | 60 | 5 |
| 99 | Wheal Seton | 214 | 720 |
| 180 | Wheal Sisters | 35½ | 5 |
| 512 | Wheal Sophia | 3½ | 5 |
| 126 | Wheal Spearne | 10 | 75 |
| 128 | Wheal St. Ann | 30 | 35 |
| 650 | Wheal Trescoll | 5 | 6½ |
| 269 | Wheal Trelawny | 75 | 72 |
| 256 | Wh. Tremaine (St. Ervan) | 9½ | 2½ |
| 1024 | Wheal Tremayne | 9½ | 3 |
| 93 | Wheal Tryphena | 140 | 265 |
| 1000 | Wheal Vincent | 14 | 6 |
| 256 | Wheal Vlow (Perranz.) | 5 | 1 |
| 184 | Wheal Vyvyan | — | 60 |
| 250 | Wheal Williams | 38½ | 5 |
| 1024 | William & Mary North | 2 | 2½ |

### FOREIGN MINES.

| Shares. | Company. | Paid. | Price. |
|---|---|---|---|
| 5000 | Alten Mining Company | 1½ | 1½ |
| 15000 | Asturian Mining Co. | 15 | 3½ |
| 20000 | Australian | 2 | 5-16 |
| 10000 | Anglo-Mexican Co. | 100 | 4 |
| 12374 | Ditto Subscription | 25 | 1½ |
| 6000 | Barossa Range | 1 | 1½ |
| 3000 | Bolanor | 150 | 3 |
| 2000 | Ditto Scrip | 15 | 3½ |
| 10000 | Brazilian Imperial | 25 | 7 |
| 12000 | Cobre Copper Co. | 40 | 13 |
| 70000 | Copiapo Mining Co. | 14 | 3 |
| 10000 | General Mining Ass'n. | 20 | 10 |
| — | Guadalcanal | 3½ | 5½ |
| 3000 | Kinnigthal Mining Ass. | 2 | 3 |
| 20051 | Mexican Company | 59 | — |
| 2000 | Mexican & South Amer. | — | 2 |
| 5000 | National Brazilian | 30 | 3½ |
| 104000 | N. Brit. Australasian | — | ½ |
| 7000 | Royal Santiago | 10 | 4 |
| 41000 | St. John del Rey | 15 | 14½ |
| 43174 | United Mexican | Av. 29½ | 4½-3½ |

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

## RAILWAY TRAFFIC RETURNS.

| Name of Railway. | Lgth. Rway. | Present actual cost. | Price per share | Div. 1848 | Div. 1849 | Traffic Returns. 1849 | Traffic Returns. 1848 |
|---|---|---|---|---|---|---|---|
| Belfast and Ballymena | 37½ | — | 21½ | 5 p.c. | 5 p.c. | £ 345 | — |
| Birkenhead, Lancashire, & Cheshi. | 19 | 997,384 | 37 | 5 p.c. | — | 611 | 575 |
| Bolton, Blackburn, & West Yorksh. | 14 | — | — | — | — | 274 | — |
| Caledonian | 141 | 3,993,732 | 25½ | — | — | 3486 | — |
| Chester and Holyhead | 84 | 3,014,602 | 24 | 4 | — | 1044 | — |
| Dublin and Drogheda | 35½ | 774,875 | 32 | — | — | 669 | 648 |
| Dublin and Kingstown | 7 | 395,915 | — | — | — | 548 | 492 |
| Dundee, Perth, & Aberdeen Junc. | 47½ | 544,534 | 26½ | 8 | — | 972 | 739 |
| East Anglian (Lynn to Ely) | 67½ | 1,167,104 | 4½ | — | — | 680 | 450 |
| East Lancashire | 44 | 1,733,915 | 20½ | 5 | — | 1712 | 956 |
| Eastern Counties and Norfolk | 307 | 10,364,506 | 11½-3 | 4 | — | 12803 | 11723 |
| Eastern Union | 51½ | 1,522,232 | 12½ | — | — | 1140 | 1044 |
| Edinburgh and Glasgow | 57½ | 2,556,889 | 42½ | 6 | — | 2929 | 3197 |
| Edinburgh and Northern | 78 | 1,722,313 | 12 | 4* | — | 1858 | 727 |
| Glasgow, Paisley, and Ayr | 102½ | 2,286,358 | 65 | 4 | — | 3536 | 2012 |
| Glasgow, Paisley, & Greenock | 23 | 648,328 | 14½ | 4 | — | 770 | 681 |
| Gt. Northern & East Lincolnshire | 110 | — | — | 5* | — | 1628 | — |
| Gt. Southern & Western, Ireland | 131 | 2,844,897 | 21 | 4* | — | 2937 | 1861 |
| Great Western | 305½ | 11,311,069 | 100 | 7 | — | 17213 | 16867 |
| Kendal and Windermere | 10½ | 174,600 | 25½ | — | — | 116 | 89 |
| Lancaster and Carlisle | 70 | 1,476,102 | 55½ | 4 | — | 1814 | 1188 |
| Lancashire and Yorkshire | 178½ | 8,242,628 | 72 | 6 | — | 9856 | 8295 |
| London and North Western | 495 | 22,835,120 | 136½ | 7 | — | 36531 | 32972 |
| London and Blackwall | 4 | 1,299,675 | 5½ | 1-12 | — | 614 | 703 |
| London, Brighton, & South Coast | 102½ | 6,284,812 | 36 | 2½ | — | 5043 | 5660 |
| London and South-Western | 215 | 7,139,733 | 47½-3 | 6 | — | 7782 | 6399 |
| Londonderry and Enniskillen | 14½ | 154,643 | 16 | — | — | — | 116 |
| Manchester, Sheffield, & Lincolnsh. | 91½ | 4,651,093 | 31½ | 5 | — | 2725 | 2669 |
| Midland Company | 471 | 13,254,006 | 97½ | 6 | — | 19698 | 16588 |
| Midland Great Western (Irish) | 50 | 725,332 | 18½ | 4* | — | 943 | 806 |
| North British | 99 | 3,163,450 | 16½ | 5 | — | 2127 | 1788 |
| Scottish Central | 43½ | 1,245,496 | 26½ | — | — | 792 | — |
| Shrewsbury and Chester | 47 | 780,279 | 19 | 5 | — | 1200 | 830 |
| South Devon | 52½ | 1,189,351 | 18 | — | — | 1176 | 684 |
| South-Eastern | 165½ | 2,389,392 | 26 | 6½ | — | 6350 | 6637 |
| Taff Vale | 38 | 820,056 | 125 | 6½ | — | 1854 | 1791 |
| Ulster | 26 | 684,684 | 45½ | — | — | 686 | 616 |
| Whitehaven Junction | 12 | 130,879 | 109 | 3 | — | 168 | 153 |
| York, Newcastle, & Berwick | 209 | 5,038,255 | 38½ | 8 | — | 11769 | 9520 |
| York and North Midland | 265½ | 4,179,305 | 56-7 | 8 | — | 6341 | 6265 |

### FOREIGN RAILWAYS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Amiens and Boulogne | 76½ | 573,338 | 9 | 4 | — | 1168 | 979 |
| Dieppe | 36 | — | — | — | — | 319 | — |
| Dutch Rhenish | 57½ | — | 1½ | — | — | 798 | 849 |
| Montereau and Troyes | 71½ | — | — | — | — | 356 | — |
| Northern of France | 211 | 9,000,000 | 8-7½ | — | — | 13643 | 12091 |
| Orleans to Bourges (Central) | 107½ | — | — | — | — | 1874 | 2232 |
| Orleans to Tours | 72 | 600,000 | 33½ | 6 | — | 2537 | 2562 |
| Paris and Orleans | 82 | 3,013,720 | 38 | 12½ | — | 6218 | 7564 |
| Paris and Rouen | 85 | 2,082,916 | 18 | — | — | 4945 | 6007 |
| Rouen and Havre | 39½ | — | 10 | — | — | 1938 | 3316 |
| Strasburgh and Basle (monthly) | 93 | — | 6 | — | — | 1257 | 1039 |
| West Flanders (ditto) | — | — | 2 | — | — | 1052 | 1615 |

## LEAD ORES.

*Tickettings at the King's Head Hotel, Holywell, January 23.*

| Mines. | Tons. | Amount. | Purchasers. |
|---|---|---|---|
| Pen-yr-henblas | 32 | £10 0 0 | J. P. Eyton. |
| ditto | 32 | 10 8 0 | Mather & Co. |
| ditto | 30 | 10 2 6 | Newton, Keates, & Co. |
| Westminster | 60 | 9 5 0 | Walker, Parker, & Co. |
| Jamaica | 30 | 9 17 6 | Newton, Keates, & Co. |
| Deep Level | 118 | 9 18 0 | ditto |
| Herward | 6 | 10 12 0 | ditto |
| Whylfa | 5 | 10 12 0 | ditto |
| Milwr | 24 | 7 1 0 | Walker, Parker, & Co. |
| Halkin Hall | 5 | 9 7 0 | Mather & Co. |
| Carlig | 56 | 9 7 6 | Newton, Keates, & Co. |
| ditto | 4 | 10 1 0 | Walker, Parker, & Co. |
| Belgrave | 33 | 9 10 0 | ditto |
| Total tons | | £101½ | |

*Sold at the Mine.*

| | | | |
|---|---|---|---|
| East Wheal Rose | 67 | £12 5 0 | Walker, Parker, & Co. |
| ditto | 47 | 13 1 0 | ditto |
| ditto | 37 | 12 1 0 | ditto |

*Sold at Bagill.*

| | | | |
|---|---|---|---|
| Barristown | 35 | £10 11 0 | Walker, Parker, & Co. |

*Sold at Aberystwith.*

| | | | |
|---|---|---|---|
| Goginan | 40 | £13 15 6 | Sims and Somers. |
| ditto | 60 | 14 1 0 | Walker, Parker, & Co. |
| Frongoch | 60 | 9 3 6 | Sims and Co. |
| Graigoch | 43 | 8 11 0 | Newton, Keates, & Co. |
| Level Lewydd | 32 | 9 3 6 | Sims & Co. |
| Penpemprin | 12 | 9 19 0 | ditto |
| Darran | 29 | 15 3 0 | ditto |
| Bog | 19 | 9 0 0 | Newton and Walker. |
| Nanteos | 27 | 8 13 6 | Walker, Parker, & Co. |

## COPPER ORES.

*Sampled Jan. 10, and Sold at the Royal Hotel, Truro, Jan. 25, 1849.*

| Mines. | Tons. | Price. | Mines. | Tons. | Price. |
|---|---|---|---|---|---|
| Consols Mines | 104 | £3 16 0 | Par Consols | 70 | £6 7 0 |
| ditto | 96 | 3 15 6 | ditto | 87 | 7 11 6 |
| ditto | 80 | 4 18 0 | South Caradon | 80 | 7 1 0 |
| ditto | 72 | 3 15 0 | ditto | 47 | 5 8 6 |
| ditto | 64 | 3 12 6 | ditto | 39 | 6 10 0 |
| ditto | 63 | 2 6 6 | ditto | 25 | 5 0 6 |
| ditto | 62 | 2 17 0 | ditto | 18 | 3 13 6 |
| ditto | 61 | 5 6 0 | Wh. Comfort | 75 | 3 0 0 |
| ditto | 60 | 4 8 0 | ditto | 65 | 4 5 6 |
| ditto | 51 | 5 8 0 | ditto | 46 | 2 7 6 |
| ditto | 40 | 4 6 0 | Wh. Mary Consols | 81 | 5 6 6 |
| ditto | 36 | 5 9 6 | ditto | 68 | 5 2 0 |
| United Mines | 106 | 5 8 0 | ditto | 21 | 2 7 0 |
| ditto | 101 | 4 16 6 | Treleigh Consols | 74 | 2 19 6 |
| ditto | 92 | 2 13 0 | ditto | 49 | 6 12 6 |
| ditto | 91 | 4 13 6 | ditto | 45 | 7 3 6 |
| ditto | 72 | 4 8 0 | South Tolgus | 81 | 5 6 6 |
| ditto | 71 | 2 12 0 | ditto | 76 | 5 7 6 |
| ditto | 70 | 2 17 0 | Wh. Henry | 65 | |
| ditto | 61 | 3 7 6 | ditto | 43 | Withdrawn. |
| Treviskey | 102 | 8 17 0 | ditto | 10 | |
| ditto | 91 | 5 12 6 | Creeg Braws | 79 | 3 9 0 |
| ditto | 85 | 4 1 0 | ditto | 23 | 2 10 0 |
| ditto | 81 | 4 10 0 | Perran St. George | 38 | 3 11 6 |
| ditto | 63 | 7 12 0 | ditto | 37 | 9 3 0 |
| Tresavean | 98 | 4 1 0 | ditto | 24 | 3 0 0 |
| ditto | 80 | 2 12 6 | Wh. Ellen & Music | 73 | 6 3 6 |
| ditto | 70 | 3 16 6 | ditto | 18 | 6 11 6 |
| ditto | 62 | 3 17 0 | Gramble & St. Aub. | 40 | 2 3 0 |
| ditto | 54 | 5 1 6 | ditto | 34 | 5 9 0 |
| ditto | 33 | 3 13 6 | Wh. Clifford | 16 | 2 14 0 |
| Par Consols | 84 | 4 9 0 | ditto | 4 | 4 4 0 |
| ditto | 79 | 5 8 0 | | | |

### TOTAL PRODUCE.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Consols Mines | 780 | £3252 | 19 | 6 | Treleigh Consols | 168 | £867 13 0 |
| United Mines | 667 | 2645 | 17 | 6 | South Tolgus | 157 | 839 16 6 |
| Treviskey | 422 | 2602 | 2 | 6 | Wh. Henry | 118 | Withdrawn |
| Tresavean | 397 | 1508 | 13 | 9 | Creeg Braws | 102 | 350 1 0 |
| Par Consols | 290 | 1676 | 13 | 6 | Perran St. George | 99 | 546 8 0 |
| South Caradon | 209 | 1264 | 5 | 0 | Wh. Ellen | 91 | 569 2 6 |
| Wh. Comfort | 186 | 612 | 2 | 6 | Gramb. & St. Aub. | 74 | 271 6 0 |
| Wh. Mary Consols | 170 | 827 | 9 | 6 | Wh. Clifford | 20 | 60 0 0 |

Average Standard ..... £ 93 10 0 | Average Produce ..... 7½
Average Price per ton ..... £4 13 0
Quantity of Ore ..... 3841 tons. | Quantity of Fine Copper, 304 tons 0 cwt.
Amount of Money ..... £17,874 10 0
LAST SALE.—Average Standard ..... £ 94 12 0.—Average Produce ..... 9½
Standard of corresponding sale last month, 93l. 1s.—Produce, 7½.

### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Mines Royal | 317 | £ 1687 9 10 |
| Vivian and Sons | 718 | 2892 2 0 |
| Freeman and Co. | 523 | 2526 8 4 |
| P. Grenfell and Sons | 622 | 3207 9 6 |
| Crown Copper Company | 27 | 143 15 6 |
| Sims, Willyams, and Co. | 751 | 2694 1 0 |
| Williams, Foster, and Co. | 780 | 4255 12 6 |
| Schneider and Co. | 107 | 467 11 4 |
| Total tons | 3841 | £17,874 10 0 |

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—East Wheal Crofty 646—North Pool 581—Camborne Vean 435—Wheal Seton 423—Tincroft 307—South Wheal Basset 240—Fowey Consols 236—Condurrow 221—East Pool 185—Dolcoath 156—Trethellan 153—Wheal Mary 120—South Wheal Frances 110—Wheal Prudence 72—Wheal Vyvyan 36—Wheal Andrew and Nangiles 25—Richards's ore 18—Wheal Harriet 12—Wheal Kitty 5.—Total, 3983 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 781—Tywarnhayle 611—Par Consols 319—Wheal Agar 139—West Wheal Seton 112—Wheal Tremayne 93—Wellington Mines 90.—Total, 2145 tons.

## COPPER ORES

*Sampled Jan. 3, and Sold at Swansea, Jan. 25, 1849.*

| Mines. | Tons. | Prod. | Price. | Mines. | Tons. | Prod. | Price. |
|---|---|---|---|---|---|---|---|
| Cobre | 118 | 14 | £8 13 6 | Cobre | 80 | 14 | £8 13 0 |
| ditto | 102 | 14 | 8 10 0 | ditto | 69 | 22½ | 14 11 0 |
| ditto | 69 | 15½ | 10 0 0 | ditto | 56 | 15½ | 9 2 6 |
| ditto | 59 | 21½ | 14 9 6 | ditto | 55 | 22 | 14 6 6 |
| ditto | 54 | 22½ | 14 17 6 | ditto | 51 | 22½ | 14 7 0 |
| ditto | 50 | 13½ | 8 14 0 | ditto | 36 | 22½ | 14 16 0 |
| ditto | 49 | 21½ | 14 6 0 | ditto | 16 | 16½ | 10 15 0 |
| ditto | 13 | 19 | 11 18 6 | Cuba | 35 | 30½ | 20 0 0 |
| ditto | 100 | 14½ | 8 13 6 | | | | |

### TOTAL PRODUCE.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cobre | 966 | £10,673 | 9 | 0 | Cuba | 35 | £700 0 0 |

### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| English Copper Company | 68 | £ 942 18 0 |
| Grenfell and Sons | 160 | 1740 10 0 |
| Sims, Willyams, and Co. | 374 | 4129 11 6 |
| Vivian and Sons | 129 | 1392 14 0 |
| Williams, Foster, and Co. | 103 | 1436 13 0 |
| Schneider and Co. | 166 | 1431 2 6 |
| Total tons | 1000 | £11,373 9 0 |

Copper ores for sale, Feb. 16.—Cobre 77, ditto 71, ditto 66, ditto 57, ditto 55, ditto 70, ditto 68, ditto 60, ditto 47, ditto 63, ditto 62, ditto 54, ditto 80, ditto 53.—Burra Burra 58, ditto 56, ditto 51, ditto 49.—Glasgow Slag 82.—Vine Slag 23, ditto 15.—Total, 1211 tons.

## LATEST CURRENT PRICES OF METALS.

*LONDON, JANUARY 26, 1849.*

| | | | |
|---|---|---|---|
| **ENGLISH IRON.** *a* | *per ton.* | | |
| Bar, bolt, & square, London | £8 | 10 | 0 |
| Nail rods | 7 | 10 | 0 |
| Hoops | 8 | 0 | 0 |
| Sheets (singles) | 9 | 0 | 0 |
| Bars, at Cardiff & Newport | 5 | 5 | 0 |
| Pig, No. 1, Wales, cold-blast | 4 | 0 | 0 |
| Do. do. hot-blast | 3 | 15 | 0 |
| Do., No. 1, Clyde ... per cash | 3 | 2 | 16 |
| Rails | 5 | 5 | 10 |
| Chairs | 4 | 0 | 0 |
| **FOREIGN IRON.** *b* | | | |
| Swedish | 13 | 10 | 0 |
| CCND | 17 | 0 | 0 |
| PSI | | — | |
| Gourieff | | — | |
| Archangel | 12 | 10 | 13 |
| **FOREIGN STEEL.** *c* | | | |
| Swedish keg | 13 | 10 | 0 |
| Ditto faggot | 15 | 10 | 0 |
| **ENGLISH COPPER.** *d* | | | |
| Sheets, sheathing, & bolts, p. lb. | 0 | 0 | 9 |
| Tough cake ... per ton | 79 | 10 | 0 |
| Tile | 76 | 10 | 0 |
| Old coppers ... per lb. | 0 | 0 | 7½ |
| **FOREIGN COPPER.** *f* | | | |
| South American, in bond | 73 | 10 | |

| | | | |
|---|---|---|---|
| **ENGLISH LEAD.** *g* | | | |
| Pig ... per ton | £15 | 15 | 0 |
| Sheet | 16 | 15 | 0 |
| Red lead | 18 | 0 | 0 |
| White ditto | 22 | 0 | 0 |
| Patent shot | 19 | 0 | 0 |
| **FOREIGN LEAD.** *h* | | | |
| Spanish, in bond | 15 | 10 | 0 |
| American ditto | | — | |
| **ENGLISH TIN.** *i* | | | |
| Block ... per cwt. | 4 | 2 | 0 |
| Bar | 4 | 4 | 0 |
| **FOREIGN TIN.** *k* | | | |
| Banca, in bond | 4 | 0 | 0 |
| Straits | 4 | 5 | 0 |
| Peruvian (6 mo 2½ p. ct. dia.) | | — | |
| **TIN-PLATES.** *l* | | | |
| IC Coke ... per box | 1 | 7 | 0 |
| IC Charcoal | 1 | 11 | 0 |
| IX ditto | 1 | 17 | 0 |
| **SPELTER.** *m* | | | |
| Plates, warehoused ... per ton | 15 | 10 | 0 |
| Ditto, to arrive | | — | |
| **ZINC.** *n* | | | |
| English sheet ... per ton | 20 | 0 | 0 |
| Queenhithe, *o* ... per lb. | 0 | 0 | 0 |

[Iron—Refined metal, 4*l.* to 4*l.* 5*s.*—Anthracite, 4*l.* to 4*l.* 5*s.*
Stirling's Patent toughened pigs, in Glasgow, 3*l.* 10 to 3*l.* 15*s.* 6*d.*; in Wales, 4*l.* to 4*l.* 5*s.*]

REMARKS.—The feeling of confidence which has been for some time steadily increasing, has shown itself in a more prominent degree during the past week, and we have to record a considerable amount of business at higher prices. Welsh bar-iron is held firmly at 5*l.* 5*s.* per ton, free on board, in Wales. The market for Scotch pig-iron continues buoyant, at improved rates; sales have been made within the last few days of ordinary brands at 47*s.* 6*d.* per ton for mixed Nos., and 49*s.* for all No. 1, cash; whilst No. 1 Gartsherrie, and other brands suitable for the American market, have brought from 49*s.* to 50*s.* per ton, and we write the price for this brand to-day firm at 50*s.* English tin is in good demand at the late advance, as also tin-plates, which are still looking up. Spelter quiet at 15*l.* 10*s.*

GLASGOW, JAN. 25.—There has been much firmness amongst holders this week, and they have advanced the price to 46*s.* 6*d.* The demand does not appear to be great, and, by reason of this advance, the business done has been more circumscribed. A small parcel of mixed Nos., Gartsherrie branch, was sold to day at 48*s.* 6*d.*—cash.


DUISBURG IRONWORKS.—Company's Offices, No. 28, Moorgate-street, City.—Extensive MINES OF IRON ORE are the absolute property of this company; they are situate in the middle of the rich COAL BASIN of the RUHR, close to the railways to Berlin, Cologne, Elberfeld, and other principal towns of Germany. An almost inexhaustible and cheap supply to blast-furnaces, which are to be constructed next spring, in the vicinity of Duisburg, near the Rhine, will be obtained from these mines, with a view of meeting a portion of the large demand for "pig-iron" for the German markets.

The company being managed as a *Société en Commandite*, in Prussia, and under the "Cost-book Principle" in England, the responsibility of the shareholders is thereby legally limited to their shares.

Further information may be obtained, and specimens inspected, at the above offices.

TO PUBLIC COMPANIES, MERCHANTS, MINERS, &c. —EVERY DESCRIPTION of ACCOUNT BOOKS requisite for the COUNTING-HOUSE or BOARD-ROOM, manufactured to any pattern and ruling, hot-pressed, and bound in the most durable manner (paged in type, without additional cost), on a scale of charges reduced to meet the times.—WRITING PAPERS, ENVELOPES, and STATIONERY, of the very best description, on the like reduced scale. Lists on application.
F. W. RALPH, COMMERCIAL STATIONER,
36, *THROGMORTON-STREET, BANK, LONDON.*


## NOTICES TO CORRESPONDENTS.

FOREIGN MINES.—It is with much regret we are compelled to postpone a most valuable statistical document, explanatory of the sales of ores from foreign mines, and which includes four distinct tables,—the first exhibiting the results of the sales of ores imported from the island of Cuba, classed under the different heads of Cobre, Cuba, and Santiago. The second gives the accounts from the state of Chili, under the heads of Chili and Copiapo. The third applies to the imports from the colony of Australia, under the several titles of Burra Burra, Kapunda, Princess Royal, and Australia. And the fourth and last, is a recapitulation or summary of the first three statements, showing the total amounts, in exact correspondence with those given in our last week's number; to which is added a comparative statement of the results of the Cornish ticketings from the same details furnished under that head, in our number of the 6th inst. The tables, we may add, have been compiled and commented upon by one of the first authorities—a gentleman to whom we have been frequently indebted for much valuable information. We have also over several original communications, including the continuation of the series of papers on "The Winning and Working of Collieries," by M. Dunn, C.E.; the "Metallurgical Treatment of Ores," by J. Mitchell, M.C.S.; the "Bank Charter Act and the Industrial Interests of the Country;" some remarks on the Australian Agricultural Company; Steam-carriages on Common Roads, &c., &c., to insert which, and to make space for the increasing demands on our columns, we shall give next week A DOUBLE SHEET.

*** It is particularly requested that all communications may be addressed—

TO THE EDITOR,
*Mining Journal Office,*
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

CORBE COPPER MINING COMPANY.—In our article on "Mining in 1848," on the 30th Dec. last, it was stated that only one dividend, of 1*l.* per share, had been paid by the directors of this company, whereas two dividends of 1*l.* per share, on 12,000 shares, were paid—viz.: 13th Feb., 1*l.* per share; and 3d Aug., 1*l.* per share.

"An Old Subscriber."—A letter forwarded to our office will reach Mr. Hopkins.

"H. and B." (Exeter).—The address of Mr. White, the patentee of the hydro-carbon gas, is, 9, Lincoln's Inn-fields.

"An Inventor" (City) inquires where the specifications of patents can be inspected, and what is the charge?—If the specification was enrolled previous to the 1st Jan., 1849, it can be seen at the Inrolment Office, the Rolls Chapel Office, or the Petty Bag office—fee, 1*s.* search; 2*s.* 6*d.* for inspection. But if it be enrolled since Jan. 1, 1849, it will be found at the Inrolment Office—charge, 1*s.*—This notice also supplies the information required by "T. L. W." (Barnstaple).

GOLD MINES IN ENGLAND.—*Errata* in last week's Journal:—Third paragraph, for "the prevailing one," read the "prevailing *lodes* or *veins*;" for "abandoned," read "*discontinued*;" for "tin stone," read "*vein stone*;" for "masses of mineral," read "*mass of minerals*;" sixth paragraph, for "lead work," read

of the golden harvest from the sands, or whether riches will ever be obtained by the discovery of sufficient deposits of metal in the parent rock, one of the consequences is certain—a vast track of territory, now in the hands of the Government of a nation whose population are the descendants of England, capable of being made rich in the production of all the wants, and even luxuries, of life, with soil and geographical position capable of producing the vine and the olive, her streams teeming with the most delicious of the finny tribe, her prairies covered with herds of cattle, and her forests with venison, with a climate equally healthy with any in the world, while her principal harbours will accommodate the whole navies of Europe, is now open for the enterprising and the industrious of European and American nations, of which there is little doubt thousands will avail themselves, who, if they do not raise gold, will grow crops of equal or greater value. It is probable no circumstance could have arisen at so happy a period to induce colonization in this magnificent country; and thus bring, through the position of the Isthmus of Panama, the immense resources of the Pacific directly home to our own country. In another column will be found a review of a work by Prof. ANSTED, entitled *The Gold Seeker's Manual*, and it gives us much pleasure to observe, that our anticipated results of this discovery so closely assimilate with the author's.

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While the eyes of all the world are turned towards the coast of the Pacific, and catching, with eager delight, at every new object relative thereto within the sphere of vision, we must not lose sight of another spot on the globe of equal interest, of quite equal promise to the emigrant, although its sands do not produce gold by merely washing, and one which is bound to us by all the ties of friendship, consanguinity, and home—we allude to SOUTH AUSTRALIA. It will be seen from a communication by our own correspondent, inserted in another column, that since our last advices, much bustle and excitement has prevailed in this truly British colony, respecting the bateful subject of the royalties on mining property being rightfully due to the Crown. We have, from the first attempts to inforce these royalties, considered them an usurpation, and totally at variance with the agreements tacitly entered into with the promoters of the colony and purchasers of the soil; and we heartily rejoice at their abandonment, which may be considered as virtually complete; for, after the new Governor, Sir HENRY YOUNG, has taken upon himself the abolishing these obnoxious demands, we do not think the home Government will have the face to alter his decision, by making a law for putting them in force. It will be seen, that the Burra Burra Mines have not yet reached the *acmé* of their prosperity; shares have been at an enormous price, and, notwithstanding the strike mentioned by our correspondent, we do not apprehend it will last long, or, at all events, interfere with the payment of regular dividends, or the prosperity of the mine. Another prodigious lode of malachite had been discovered. Several other mines, it will be seen, are mentioned as holding out great promise, and, from all the accounts we hear, every interest in the colony is progressing in the high road to wealth and prosperity. A report of the annual meeting of the South Australian Banking Company will also be found in another column, their profits having enabled them to pay a dividend of 6 per cent., a bonus of 5*s*, per share, add something considerable to the reserve fund, and still keep a respectable balance in hand, is further proof of the undoubted prosperity of the colony.

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We understand that a private meeting of parties, favourable to the formation of the BRITISH COPPER SMELTING ASSOCIATION, was held at the company's offices, in Moorgate-street, on Wednesday last, when a full preliminary report of the proceedings to the present time was read, and measures taken for the completion of an efficient direction, preparatory to the question being early brought before the public. With the opinions, often expressed in this Journal, of the importance of such an addition to that department of the copper trade, we need hardly say, that we wish them all the success that must attend the undertaking under spirited but prudent management; and, although we know nothing of the details of what took place at the meeting in question, we augur well for that success, from the absence of all haste to force the measure forward, until full and cautious deliberation should permit its being introduced on a perfect acquaintance with every branch of the question. And we may add that, from our knowledge of the patient, persevering, and, at the same time, energetic character of some of the parties connected with the undertaking, we are satisfied that no exertion will have been spared to arrive at the most accurate acquantance with every necessary fact.

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We give to-day an abstract of M. LE MOLT's specification of his proposed improvements in the apparatus for obtaining electric light. Placed side by side with STAITE's specification, this document bears a very insignificant appearance, and if length of description were the measure of excellence, Mr. STAITE would infallibly obtain the prize. However, taking the test proposed by Mr. HOLMES in his letter, published by us last week—viz., the comparative merits of the batteries, it would appear that M. LE MOLT has a claim to our consideration, by no means second to that of his competitor. That this specification describes a most important modification of the carbon battery of BUNSEN, will be sufficient to justify our opinion in this respect before the scientific world; and we shall presently advert to the question, how far this may advantageously tend to resolve our difficulty in obtaining a very desirable addition to the present means of artificial illumination.

The question divides itself, as Mr. HOLMES has put it, into three parts—the lamp, the battery, and the system of applying the light. Mr. HOLMES dismisses very shortly the first and last of these; but we are not quite satisfied that he is right in doing so. There is a great deal yet to be done in the regulating of the carbon points. Apparently, the apparatus employed by both parties appear ingenious contrivances to realise the desideratum of a self-acting machine for this purpose. We cannot agree in the view, that there is nothing new in these pieces of mechanism, nor do we admit that there is, in this regard, no further novelty which can be proposed. Our opinion is, that there must be a very great advance made to obtain a lamp which may be safely adopted, to ensure a regular adjustment of the carbon points; for we do not find in the inventions before us any proposition to that effect, consistent with the requisite simplicity and certainty. What have we before us in these patents? Two machines, expensive and complicated. Let the reader imagine a footman, or a keeper of a lighthouse, entrusted with the care of one or the other. Suppose the efficiency of a beacon-light, or the illumination of a theatre, dependent on a most capricious element, regulated by a chronometer, whilst ignorant and occasionally careless men are left to attend to it. The gravest apprehension must always harass us, lest some fatal indiscretion on the part of the attendants should result. Where the light is merely an accessory for occasional use, we do not pretend that our objection could apply, because, in such case, many simple remedies may be resorted to. But if this light is to supersede those to which we have so long trusted, not only must a much simpler means of adjusting the electrodes be invented, but, we will add, the carbon, on the nature of which depends, to a great extent, the effect of *incandescence*, presents a subject for many experiments and mature consideration, before we can accept the assertion of any inventor as to his possessing the purest and best material.

Before applying ourselves to the subject of the battery, we shall merely at present allude to the third point, to meet the order of Mr. HOLMES's argument. To characterise the proposals of individuals who fail to give them effect as the *ne plus ultra* of intellect, is to speak against experience. For example, arrangements heretofore applicable may not suit the existing condition of the enterprise. About a year ago, a proposition was made to issue a reprint of the *Times* at Bombay, Madras, and Calcutta simultaneously, and at some two or three hours after its publication in London. It is not to be denied that the electric telegraph is open to vast improvements; but assume that Mr. HOLMES had proposed a means for accelerating our communications with the East, would he consent to be tied to the details of the plan, which we refer to as excluding him from the merit of devising better and more novel dispositions? We think not; and, therefore, it may be well to turn our thoughts to the mode of utilizing this powerful light—a subject apparently passed over by the patentees. Let us not be like the Sicilian tyrant, who having aspired to build a ship surpassing all others, could find none of his harbours in which to float her. We have here a most brilliant light. Are we to use it in our rooms, so as to blind ourselves, or in the streets, so as to blind our horses? Unless we can bring it to useful and ordinary purposes, it is unnecessary to discuss its economy; for if it must be classed with the DRUMMOND, the BUDE, and others for extraordinary applications, economy is no consideration. We have said that the patentees seem to have neglected this point, because we do not find any proposition for giving a series of lights from one source, and it clearly cannot be the design to appropriate a battery to each light. Be that as it may, it will require much to perfect a plan of operations, and, therefore, it is hardly fair to condemn hastily, as unworthy of attention, all progress in this direction.

We now turn to the battery; and here we concede that the great difficulty of the scheme lies. Mr. STAITE's varied details may tend to the most important results; but our limited information would lead us to say, that there are few of them which are wholly new. The *perfluent* system—the applications of syphons—in fact, most of the particulars comprised in the specification, have been the subject of experiment, and we have nothing in the specification to point out the essential benefit of departures from the dispositions of the many eminent professors who have given to the world a mass of information upon the subject. M. LE MOLT's battery, too, is only a modification—a highly important one, we must admit—of BUNSEN's carbon battery. It is not our province to decide between rival pretensions—that is for another tribunal. Yet we may be allowed impartially to inquire how far the respective improvements provide the solution of existing doubts, which we must reserve for a future occasion. We shall close these observations with a short explanation of a principle not generally understood, which may assist such of our readers, as are neophytes in this section of science, to comprehend the principle of the BUNSEN battery—the original of that of M. LE MOLT.

The theory of the galvanic pile, naturally enough, established a scale of experiments confined to metallic substances, whose tendency, more or less, to oxidize ranked them in the following order—platina, gold, silver, mercury, copper, lead, iron, zinc (we do not rigourously enumerate all the metals adopted), and all modifications of the voltaic pile were based on this principle, that the more remote the two metallic elements employed, the more perfect were the results in the resinous and vitreous, or negative and positive, electric fluids. Considerations of economy reduced this scale to one extending from copper to zinc, and limited the practical efficiency of the pile. We believe we are right in giving the honour to Professor BUNSEN, of being the first to imagine that a *non-metallic* substance stood higher than the highest grade of this scale as an *effluent*—to use the appropriate term of NOLLET. He, therefore, substituted carbon as the negative element.

His experiments realised a degree of intensity previously unattainable; but from the cause we shall now explain, his battery has been laid aside, and in this country it has been but little used. The elements consisted of a hollow cylinder of carbon, surrounding the plate, or ingot, of zinc—the metallic connection with the carbon being effected by a brass circlet, embracing the upper part. However, the porous nature of the carbon allowing the acid to ascend, and the gaseous emanations, soon produced a deposit of oxide on the circlet, and other parts of the metallic connection, so as to destroy, or impair, the current of electricity. Moreover, the friable nature of the carbon, and the inequality of its surface, allowing at best but an imperfect connection, and the necessity of using numerous screws, which required great attention, were objectionable. Accordingly, as we have said, the whole was abandoned; and, where intensity became essential, it was superseded by GROVE's, SMEE's, and others, of similar arrangement. M. LE MOLT's battery is evidently an attempt to return to the principle of BUNSEN. He employs a cylinder of zinc surrounding an ingot of carbon, and effects their connexion by soldering the conductor to the head of the ingot, which has received a metallic surface by the electrotype process, and to the cylinder of zinc; whilst, to preserve the metallic surfaces, unemployed in the production of the vitreous fluid, he covers them with a varnish or other coating. If these fulfil the conditions of BUNSEN's theory, we freely admit, that science will owe to M. LE MOLT a large debt of gratitude, whatever may be the fate of the electric light.

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How oft have we directed attention, through the columns of the Journal, to accidents in mines and collieries? Not only have we presented petitions to the Houses of Parliament, but traversed the counties of Cornwall and Devon, more especially with the view of establishing a society, whereby the widow and the orphans of those whose lives are sacrificed in their employment underground, should be protected—having lost their only support and hope from the fearful accidents in mines and collieries. Sadly do we lament that our best efforts, although aided by Lord ASHLEY, Mr. Alderman THOMPSON, and others, who willing and anxious to support the object we have ever advocated; yet failure was the unfortunate result. The Government, while they derive profits from the mines—the country, who benefit so largely from his labour—the proprietor, who gets his gold at the cost of the life of the miner or collier—have withheld their support to such measure, and, we may say, generally any sympathy for those to whom they are indebted for their wealth.

Another melancholy instance presents itself in our columns of to-day, which, if that the Government does not take measures whereby such fearful accidents can be avoided, then will it be a call upon the nation itself to evince those feelings of humanity, which we feel are called upon to protect the injured and oppressed from the bereavement of their natural protectors.

The loss of life at Barnsley, numbering some 80 to 90 poor creatures, is too sad a tale to dilate upon. It is only such dreadful cases as this presents which will call forth anything like measures on the part of the Government, or public sympathy and feeling. In the last year, as recorded in our columns, no less than 526 lives were sacrificed, not to advert to 239 injured, and which we believe form not one tithe of those who are left widows and orphans to deplore their loss. What, then, can be said of this country, indebted, as it is, to its mineral riches for the position in which it is placed, when we find that neither the Government nor the individuals, however benefited they may be by the industry of the poorer classes, heed those claims which reflection ought in them to produce a kindly and beneficent feeling. We cannot dwell upon the subject. Have we said enough?

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One of the most important questions, as affects mining adventures, is now on the *tapis*. We have oft observed upon the Cost-book System, the Stannary Court, as well as the decisions given in our courts of legislature; but, in directing attention to the proceedings in the Court of Chancery, which will be found in another column, we consider no subject has been treated on to which so much importance is to be attached, as regards the mining adventures. The report itself gives an outline of the principal points to which we are anxious to direct attention, reserving until our next week's Journal the opinion we may ourselves entertain, as the decision of the LORD CHANCELLOR will be given in the interim. We cannot, however, but refer to the arguments advanced by counsel in the course of the proceedings, which at once demonstrate the value to be attached to Acts of Parliament, which appear to be only made to open a channel for forensic eloquence and legal fees. The case before us is very simple in itself—A. B. becomes an adventurer of 5 shares out of 500, thereby holding 100th part, or share, in the mine, and hence subject to his rateable proportion of calls; or, on the other hand, receiving only that proportion of profits which might arise; and in referring to the case under notice, we take figures, irrespective of the number of shares into which the mine is divided, or the payments thereon. A. B. having taken five shares, or 100th part of the mine, finds that the whole of the shares were not subscribed for, but only a moiety—hence he will become liable to double the amount which he undertook in joining the association. The question naturally arises, as to whether a party subscribing for 5*l*., shall be considered as to be liable to the payment of 10*l*., or double the amount for which he subscribed: this appears to have been the case in the present instance, and forms an important feature in the consideration of the subject under notice.

Leaving this point, we approach another, not less important, and which it behoves all adventurers in mines well to consider and reflect upon. C. and D., who are merchants, having supplied materials to the mine, and who cannot obtain payment, determined upon proceeding against A. B. for the recovery of the amounts due; proceedings issue, as a matter of course, and after incurring costs on both sides to more than double the amount of the claim, proceed in the Court of Exchequer against A. B., he being proved to have signed the cost-book as an adventurer, which, being produced in court, is held as a partnership bond, and that any one partner may be sued for a debt owing by the whole. A verdict is given against A. B., who thereupon immediately applies to the Court of Chancery, or Master of the Rolls, for a fiat in bankruptcy being issued under the Joint-Stock Companies' Winding-up Act, a clause in which admits that all companies, whether for mining or other purposes, shall be subject to the provisions thereof The order being granted, upon showing that the company were insolvent, is issued, but C. and D., influenced, as no doubt can exist by the company (A. B. excepted), appeal to the LORD CHANCELLOR to reverse the order, although such did not, in any way, render A. B. less liable than his proportion to his quota of the claim put forward, which would be, to adopt the figures we have used, as 100th part of the amount claimed. The case came on on the 25th and 26th inst., a brief report of which will be found in our columns of to-day, the LORD CHANCELLOR deferring his judgment until Monday next, which we shall record in due course, reserving those observations which apply to the subject in question.

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In our remarks of last week, with reference to the purchase of Chili copper, which inadvertently was called as copper ore, an error of the press, in a great measure, destroyed the argument advanced, but which would be apparent to those more immediately connected with the subject. We then stated, that 1100 tons (or rather intended so to do) of cake copper had been sold within one week, 600 tons having, as we believe, been purchased by Mr. J. H. ENTHOVEN, and the remainder in Liverpool and London, taken by Mr. MICHAEL WILLIAMS, and other smelters. The prices, we then observed, ranging from 74*l*. to 76*l*. per ton, would produce near upon 80,000*l*., thus at once showing, that however the smelters, or merchants, may complain of the pressure of the supply of ores, whether from abroad or at home, whereby their capital is, to a considerable extent, locked up, yet they have sufficient funds to buy up the manufactured copper, and thus maintain their position as monopolists. We are given to understand, that there are some grounds which might explain this "move," as we believe that the copper so introduced into our markets, contains some 5 or 6 ozs. of gold to the ton; while we are well aware that a firm, not far distant from Llanelly, obtain a large return of silver from the copper ores smelted at their works. We have discussively entered upon these points, while our only object really was to set ourselves aright, as regards the article in our last Number. By an "error of the press," it was stated that the quantity of cake copper sold in one week, imported into this country from Chili, was equal to 900 tons of copper ore—whereas it must have been evident that the figures were wrong, and which we now take the opportunity of correcting. Taking the average produce of our home mines at 8¼, it will be seen that the 1100 tons of cake copper would be equal to 13,200 tons of ore; while the article to which we refer gave the figures of 900 *only*. We do not feel it necessary, on the present occasion, further to advert to the matter, than to correct the error we unfortunately fell into, which might be calculated to mislead our readers, without this explanation being afforded.

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## A LITTLE CALIFORNIA IN SOUTH AUSTRALIA.

Dispatches have been received by the South Australian Company, from their colonial manager at Adelaide, dated 30th Sept., from which the following is an extract:—"Capt. B—— tells me, that he has raised about 20 tons of ore from the sett in Lynedoch Valley, and that he has discovered (on assay) three and a half ounces of gold, in a ton of the ores raised." Of course, no decisive opinion can be formed as to the continuance of such ore, but the fact that it has been found, and assayed by one perfectly competent, is undoubted, and calculated to excite considerable hopes. Smelting operations have also commenced in the colony, by Messrs. Thomas, who have erected a furnace on the South Australian Company's lands, in the neighbourhood of their copper mine, at Kanmantoo, in the Mount Barker district. Messrs. Thomas have produced copper ore, which on assay is found to contain 97 per cent. of pure copper. The *first* shipment has been made—15 ingots, containing about a ton and a half—and sent, per the *Thomas Lord*, to Singapore, for sale. This is an important move in the history of that go-a-head colony. Mr. Williams had arrived with his well appointed, and well provided, smelting staff and operatives, and was on the out-look for a suitable situation to erect his works for smelting, on Napier's patent, the establishment of which must, necessarily, produce a great effect on the mining interests of the colony—perhaps of this country.

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COAL IN LABUAN, BORNEO.—From a communication we have received from Labuan we find that the coal discovered there is of most excellent quality, and although the seams are perhaps equally, or more eligibly, situated than any yet known, the methods of extraction adopted by Mr. Miles, the contractor, are of the most erroneous, unscientific, miserable, and primitive kind; it depreciates the value of the coal by mixing it with the shale and earthy matter of the seams; and not the least care appears to be taken to produce it free from dust and dirt. At the north-east point of the island you can see the coal in the interior of the jungle, laid bare by the various water courses; and the seam which is at present being worked, commences at an elevation of some 50 feet above the level of the sea, at not more than 600 paces from it, and that, too, at a part where large steamers can lay in to the shore. The seam is also visible in two thick strata at low-water mark, yet the Archipelago Company has not broken ground, nor is there any signs of going ahead. There is also coal visible near the town of Bruni, in a high mountain, easy of access; every facility exists for safe and easy working, and a certain market ready for them whenever they choose to make a beginning.

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RAILWAY ACROSS THE ISTHMUS OF PANAMA.—The recent discoveries of mineral wealth in California is said to have aroused the dormant energies of the present Mexican Government, who, having lost the golden prize, which by proper management years since would have made that country equal in power and importance to their neighbours, are now exerting their energies to induce the construction of a railway across the Isthmus of Panama, at any point which may be considered by the engineers and surveyors the most advantageous. It will be remembered, that many plans have, on former occasions, been recommended by English, French, and Austrian engineers, all of which, however, fell to the ground. The Government are now, however, though too poor at present to undertake the construction, willing to give every facility, by granting the land free, &c.; and a better time could not happen, for, should a railway communication be established, the traffic, both in passengers and merchandise, will, no doubt, be great, in the transit to and from the newly-colonised region, as well as for the general commerce of the Pacific.

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SUSPENSION BRIDGE AT PESTH.—The bridge which is erected over the Danube at Pesth, was commenced in 1840, according to the designs and under the direction of William Tierney Clark, civil engineer, and has just been completed at a cost of 650,000*l*. This bridge, which for magnitude of design, and beauty of proportions, stands first among suspension bridges, has a clear waterway of 1250 feet, the centre span or opening being 670 feet. The height of the suspension towers from the foundation is 200 feet, being founded in 50 feet of water. The sectional area of the suspending chains is 520 square inches of wrought iron, and the total weight of the same 1300 tons. This is the first permanent bridge since the time of the Romans which has been erected over the Danube below Vienna, it having been considered impossible to fix the foundations in so rapid a river, subject to such extensive floods, and exposed to the enormous force of the ice in the winter season. It now, however, stands as another monument of the skill and perseverance of our countrymen. The bridge was opened for the first time, not to an ordinary public, but to a retreating army, on the 5th of January, 1849, by which the stability of the structure was put to the most severe test, which cannot be better described than by referring to the letter of a correspondent, who writes—"First came the Hungarians, in full retreat and in the greatest disorder, hotly pursued by the Imperialists; squadrons of cavalry and artillery in full gallop, backed by thousands of infantry—in fact, the whole platform one mass of moving soldiers; and, during the first two days, 60,000 Imperial troops, with 270 pieces of cannon, passed over the bridge." This fact cannot but be of importance to the scientific world, since it proves that suspension bridges, when properly constructed, and trussed according to the design of Mr. Clarke, may be erected in the most exposed places, while their cost, in comparison with stone bridges, is comparatively insignificant.—*Times*.

## MINING IN SOUTH AUSTRALIA.

[FROM OUR CORRESPONDENT.]

*Adelaide, Sept. 1.*—Since my last communication to you, dated July 14, we have had a stirring time of it here; the great battle of the royalties has been legally and peaceably fought, and the Government has been legally and peaceably defeated, although backed by the united wisdom of secretaries of state, and English attorneys, and solicitors-general. The local Government instituted a suit against the Adelaide Mining Company for the recovery of the dues, or royalties, on some ore raised by that company, and which they had refused to give up. The colony is much indebted to Governor Robe for having taken this step, for it brought the matter to an issue at once, and prevented its being kept an open question, rankling in the hearts of the colonists, had it been referred home once more. I cannot, of course, enter upon any of the legal arguments in the limits of a letter; but you will find them fully reported in the *South Australian Gazette and Mining Journal* of 15th July, 1848, and following Numbers. The judge dismissed the information on the 28th July, thereby declaring the imposition of these reservations on mineral lands illegal, and depriving the Government of the power to levy them. This place never was in so great a state of excitement before. The judge had reserved his decision for a fortnight after the hearing of the case; but, from the summing up, it was evident that his decision would be against the Government; the public exultation at this result manifested itself in a grand public breakfast being held in Adelaide, attended by all the leading colonists; and as soon as the judge had given a final decision, on the 28th July, measures were taken to celebrate the event in an imposing manner. On the 3d August, a dinner was held, attended by 190 of the colonists, numbering amongst them all those who, from their position and wealth, as well as talents and standing, can give importance to such a meeting.

You will receive all the papers containing reports of the proceedings; and, from the speeches delivered, you will gather that the colonists are not wanting in spirit to assert their just rights whenever it becomes necessary. Nothing now remained for the Government but an appeal to the Privy Council in England, but the hopelessness of the case, probably, had due effect on the authorities here, and that course was also abandoned. Meanwhile, Sir Henry Young arrived on the 2d August, thus relieving Colonel Robe from the very unpleasant duty of doing anything further in the matter. Sir Henry Young maturely considered the case in all its bearings, and took upon himself the responsibility of putting the matter finally at rest by issuing, on the 16th August, the proclamation which I inclose you. There cannot be a shadow of a doubt that the home Government will at once acquiesce in the abandonment of the royalties, and thus a great impulse will be given to our mining industry, and the violent irritation which has been springing up in the breasts of the colonists is happily allayed. Sir Henry Young, as you may suppose, has made himself immensely popular by the wise course he has adopted. The levee he held on the 25th August (Prince Albert's birthday) was more numerously attended than on any former occasion; and this cordial feeling was still further enhanced by his reply to the deputation who waited upon him, after the levee, with the petition to the Queen, praying that she may withhold her sanction to any legislative enactment by her Parliament which should attempt to reimpose that reservation. I inclose you his reply also.

Now, in dismissing this matter, I must add a word as to the part Governor Robe acted in this bone of contention. Colonel Robe is perfectly innocent as to the origin of the royalties; he found it ready for him on his arrival; he received, moreover, peremptory instructions that these reservations were to be maintained; it was not to be supposed that an old soldier like him should disobey his instructions, and so he persisted in the ungracious task of acting in opposition to the general sense of the whole colony. He sought for the concurrence of his council in enacting the levying of the royalties, according to law, and was defeated by the unofficial members withdrawing from the Council Chamber. But justice must be done to Colonel Robe; he would not disobey his instructions, but *he did strongly and repeatedly urge on the home Government to give them up.* His representations were not attended to, and the colonists, by an unmistakable expression of opinion, at length gave Col. Robe's successor the moral courage to take the responsibility upon himself, without waiting for further instructions. This measure caused Col. Robe to become unpopular; but that he is held in very universal respect, and that even his political opponents esteem him as an honourable and highminded man, is sufficiently proved by an address presented to him by the magistrates of this colony—an address passed unanimously at the most numerously attended meeting of magistrates ever held here. Colonel Robe leaves by this opportunity for Batavia, *en route* to Mauritius.

I am sure you will not have deemed me prolix on this subject, it being one of vast importance, not alone to this colony, but also to the British mining interest; for there can be no doubt that the impetus mining will now receive here, will not alone greatly increase the already large production of metallic ores in this province, but will assist in drawing the attention of British capital and enterprise to our shores. I doubt not but that your readers and yourself will also view it in this light.

To-day the seventh dividend is paid by the Burra Burra Mining Company, of 10*l.* per share, or 200 per cent. on the capital, which will divide 24,640*l.* amongst the fortunate shareholders. In a communication I addressed to you some months ago, I predicted that Burra shares would be 200*l.* each before the year was ended; this has already been more than realised; the price quoted to-day, as per inclosed list, is 222*l.*; they have been done at 225*l.* cash, and as high as 300*l.* at 12 months—this rise has been gradual for the last two months, in part owing to the establishment of Schneider's smelting establishment, and in part to the discovery of a new prodigious lode of malachite. The following are the prices at which the workings were taken at the last setting, held on the 5th August:—51 pitches, employing 153 miners (exclusive of labourers), at 2*s.* 8*d.* in 1*l.*; 2 tonwork ditto, 10 ditto (ditto), at 1*l.* 8*s.* 6*d.* per ton; 15 tutwork ditto, 24 miners sinking at 8*l.* 2*s.* 6*d.* per fm., and 46 miners driving at 4*l.* 9*s.* 6*d.* per fm. This work includes Roach's new engine-shaft, 12 by 7 in the clear, all timber included. The lode in the 80 fm. level, west of Kingston's shaft, is now 10 ft. wide *of ore*, of the richest quality, green carbonate and red oxide, and, by last accounts, the western wall of this lode was not ascertained. In another month the carting will commence again with vigour. The other mines are all going on steadily; but there is nothing of any consequence to report to you. Favourable accounts continue to be received from Tungkillo.

Capt. Richards, of the Kapunda Mines, is very dangerously ill, and not expected to live: he will be a great loss to Kapunda, as this is the time when he is most wanted, the water being forked out, and the workings being now resumed.

A land sale took place last week, at which 3205 acres realised 4011*l.*, or 25*s.* per acre.

*Oct.* 11.—The event which will most interest your readers, since the date of my last communication, is the formidable strike which has taken place amongst the miners at the Burra Burra Mines, and the depressing effect it has had on the value of the shares. Mr. Burr, the superintendent, has also been summarily dismissed by the directors; lawsuits are pending between him and the company, and, altogether, there appears to be something radically wrong somewhere. The reason for Mr. Burr's sudden dismissal, is said to be his having over estimated the per centage of the ores raised, by which the miners received too large a tribute. This is one reason; but until the matter comes properly before the public, which, it appears, it will very shortly through the courts of law, it would hardly be fair for either party to say who was in the wrong. Simultaneous with Mr. Burr's dismissal occurred the first dispute between the directors and the miners; the miners took advantage of the directors being on the ground, on their monthly inspection, to memorialise them on the subject of the assays of their samples, which they maintained was not done in a way to satisfy them that they were fairly dealt with. As the directors would not at first listen to their complaint, the 250 tributers determined on a "strike," and forced all the other mechanics, and every labourer on the property, to give over working as well. The water-whims were the only works allowed to be continued. The most alarming reports reached town, exaggerated in the highest degree, and it was feared that the miners were proceeding to violence, and would do thousands of pounds' worth of damage to the mine before assistance from town could be obtained. Captain Dashwood, and 20 of the police, started for the Burra Burra post, but all the rumours of "violence" turned out to be mere gossip, although the miners would not allow the work to proceed. A parley then took place, and the matter of the assays was amicably arranged by both parties, and everything returned to its usual state. The directors started for town, and, by the way, got capsized, from the horses running away, several of the gentlemen receiving contusions. In the interval, news arrived from England of the great depreciation in the value of copper and the ores of copper, and the directors then determined on issuing a new and reduced scale of wages to be paid in future to the miners, as follows:—Miners, 30*s.* per week; carters, 21*s.*; boys, for ore-picking, 6*s.*; smiths' labourers, 25*s.*; labourers, 21*s.*; blacksmiths, carpenters, and sawyers, 38*s.* per week. As soon as this became known at the mine another "strike" took place, which still continues. To-day the news has also come in, that the carriers have struck for higher rates—viz.: 3*l.* 5*s.* instead of 2*l.* 15*s.* per 21 cwts. The strike of the tributors and miners was, after all, not so serious an affair, for the company have nearly 15,000 tons of fine ore at grass, which will be as much as they could ship during the approaching season. The "strike" of the carriers, however, is, for the moment, far more serious, for the Burra Burra Company have chartered 16 ships, now in the port; and the demurrage for all these ships will be awful, should they not be able to get the ore down in the stipulated time. The following is a list of the ships, and the quantities they will take:—*Success*, 370 tons; *Orbona*, 300; *Himalaya*, 500; *Sibella*, 300; *Wivenhoe*, 460; *Union*, 300; *Rebecca Jane*, 280; *Emperor of China*, 640; *Lady Kinnaird*, 400; *Gratitude*, 400; *Daniel Grant*, 420; *Royal George*, 300; *Westminster*, 400; *John Bartlett*, 450; *Richardson*, 470; *Acacia*, 400—6210 tons. All these ships are to be loaded by Christmas.

The half-yearly meeting of the shareholders in this company takes place on the 18th October—the report of the directors being looked forward to with much impatience to clear up all these difficult points. Meanwhile, the price of the shares have partaken of the character of a panic. In a fortnight, they have fallen from 225*l.* cash to 175*l.* cash, and will, I have no doubt, go lower still; but why they should fall at all is a puzzle, as the ore at grass will pay four quarterly dividends alone; and by setting on the men again, after arranging the differences that have arisen, a few months will deliver the same quantity at grass.

I regret to report the death of Capt. Richards, late mining captain at Kapunda. He has been a long time ailing, and an over anxious disposition hastened the malady to an intimely end. The Kapunda Mine has thus lost a most useful and talented servant. The Kapunda is looking well; the pitches are advertised to be let on the 28th October. The English company's mine, at Reedy Creek (Tungkillo), will soon make a show; a few fathoms more will complete the adit driven in upon the large lode in the 40 fm. level, when they will commence breaking down the ore. Capt. Phillips is said to estimate the produce of the lode now in view at 20,000*l.* The Montacute is improving. Wheal Watkins (lead mine) has been leased to a private company. Wheal Gawler (lead) looking well, and rich for silver. Glen Osmond now produces regularly, and is beautifully laid open. The Belvidere Lead Mine is down 6 fms., giving from 6 to 8 tons per fm. The Port Lincoln Mine is also favourably reported of.

The *Richardson* has arrived with the smelting staff of Messrs. Schneider and Co. As soon as their works are set going, and the smelting commenced, Burra shares will be sure to go up again to a high figure. A small smelting furnace has been erected near the Kanmantoo Mines, producing a ton of 90 per cent. metal a day, out of 10 per cent. or 12 per cent. ores, in two smeltings—in fact, those ores which could not be brought to the port, owing to their poorness. Several tons have already been shipped to Singapore, *en route* to India, in ingots of 2 cwts. Two furnaces for smelting lead are now in active operation; and it is not likely that any more lead ore will be sent to England, but that it will all be smelted here.

## THE GOLD REGIONS OF CALIFORNIA.

From the best authenticated accounts, which have arrived since our last, we find that the gold fever, though still continuing, its extreme wildness had somewhat abated, and a more legitimate and rational mode of speculation had succeeded—people probably began to think, that if they got a couple of hundred miles into a desert where little food could be obtained, and that at an enormous price, they would not be much richer on their return—even supposing they did return, whole in health and limb. The speculations in the United States appear to be conducted with reason and mercantile foresight, as a specimen of which we give the following account of one:—The Boston and California Trading and Mining Company, is instituted under the auspices of men of respectability and large capital, the officers being furnished with letters of credit, and power to draw bills, so as to trade at any or all the ports of the Pacific. The crew and passengers associated in the expedition are all men of character, none other being admitted. A steam-engine forms part of the equipment, to be used for propelling a boat on the river, and along the coast. Every man is to carry a rifle, and a revolver or a brace of pistols, with ammunition. The roll of the company bears the names of 150 men, who are well known to each other, or so strongly recommended that a perfect harmony may be counted on: 21 out of the number are liberally educated. The professions and trades are all well assorted, as we find on the roll, which embraces merchants, tin-plate workers, bakers, painters, engineers, mariners, jewellers, machinists, boat-builders, farmers, five printers, blacksmiths, ship carpenters, house carpenters, boot and shoe makers, masons, clerks, founders, teamsters, doctors, hatters, geologists, tailors—two or more of each, and one surgical instrument maker, varnisher, furrier, glass blower, smelter, surgeon, barber, lawyer, editor, reporter, and coppersmith.

Such an expedition, carried on in harmony, can hardly fail in bringing home sufficient wealth to lay the foundation, at least, of the future independence of each individual among them; while to attempt to run single handed to realise a fortune and bring it home on his back, is the most preposterous idea that a man can conceive. From the Sacramento districts, however, accounts of the most awful character continue to reach us. The idle, the dissolute, and the gambler, make common cause, and there is no safety for the single individual; when a man has collected a large quantity of gold he is marked, and soon disappears—he is murdered, and his body buried at a distance; and, to add to the immorality and want of all order, the New York Volunteers, lately disbanded in Mexico, add greatly to the dark side of the picture. Col. Fremont, who was sent out on a special survey, has, it appears, given up his commission; he is proceeding on his survey further up the country, on his own account, and is supposed to be in search of some talked of remarkably rich deposit, which will make him a second Cœsus. There can be no surprise at this state of things, when, from further private letters received (which state that richer discoveries than ever had been made, and the supply was more abundant than ever) we learn that vast distress exists among the diggers, for want of the common necessaries of life; sickness existed to an enormous extent, and numerous deaths were daily taking place. Men loaded with gold, appeared like starved, emaciated, haggard vagabonds, covered with a few dirty rags, and in the utmost filth. Liquors were in such esteem, that one lucky fellow who took out, on speculation, two small barrels of brandy, sold it in small wine-glass fulls, and realised 14,000 dollars in gold dust, with which he wisely departed, probably to refresh, and renew his profitable trade. Articles of food and clothing were at prices scarcely to be believed; the tempting metal was so plentiful as to entirely have lost its nominal value. Cattle were plentiful, but vegetables and fruit, so necessary to health in a hot climate, were almost unpurchaseable.

All the statements hitherto made, as to the extent of the deposit, and purity of the gold, appear to be confirmed; great numbers have already embarked, or are preparing to do so, and many from the United States are energetic, respectable, and well provided with means. In all the ports of the United States, there were about 70 vessels ready to start for California. A letter from Philadelphia, dated Dec. 9, states, that 300,000 dollars worth of gold, received from California, had been melted in the mint there, and that there was not the slightest further doubt as to its genuineness, and the assay was 21 carats fine. The rich quick-silver mine of Mr. Forbes, which we have before noticed, is in full operation, the average produce being 33 per cent. on the weight of the cinnabar, with the most imperfect means of reduction.

With respect to the gold washing companies forming in England, we would say to our countrymen, as we have before said—beware! No company can be secure of their workmen for a single hour after they arrive at the *Sacramento*. If they find the gold picking produces better pay than the company has promised them, they will immediately set to work on their own account, nor is there any law in force there to hinder them; we should think, however, men who have capital will have grown wise from experience, and with our millions of British wealth sunk hopelessly in the mines of Mexico, and the late railway mania in their remembrance, they will pause before they send "good money after bad" on a like errand, to a still far more distant country. Our contemporary, the *Dispatch*, has some observations much to the point on this subject, he says:—

"Let a mining company be formed in England—let men be sent out to collect the gold—and what will be the result? Why, that the United States will only permit the operations to be carried on, upon condition of receiving a heavy "royalty." For every hundred pounds' worth of gold thus collected by the servitors of an English mining company, the States would exact at least 80*l.* in the shape of royalty. The remainder would not pay the expenses of the company and remunerate the shareholders. This is one argument against the formation of such companies. Another is, that it seems more than probable that the United States *will* adopt speedy measures to secure to themselves all the advantages resulting from the annexation of Upper California. The supporters and concocters of these companies will say to those whose purses they wish to draw, 'Oh! you see that the United States are doing nothing at present; and, if they meant to interfere with the proceedings of the gold-collectors, they would have begun already.' This is not, however, the way to handle the matter, and be consistent with common sense or common honesty. The United States are anxious to found an immense colony in Upper California; and the way to accomplish this aim is to allow myriads to flock thither without hindrance, gather the gold at will, and enjoy themselves for a season as best they may: because, while all this is going on, settlements will be established, towns will spring up in all directions, harbours will be formed for shipping, roads will be cut, and the media of locomotion will assume a regular shape. *Then*, when the nucleus of a prosperous colony is thus formed, without having cost the United States a single penny, Brother Jonathon will exclaim, 'Stop, it is time we should legislate, in order to put matters on a better and widely different footing.' And do the ninnies, who may have already taken up shares in the mining companies founded in England, expect that they will reap a solitary farthing's benefit? No such thing. The Americans will have made all right for themselves before a single operative, sent out by such companies, can arrive in California."

This is, doubtless, a truly legitimate view of the case, and we trust to see our merchants, our tradesmen, our bankers, and our capitalists generally, pursuing their own respective callings, and by thus supporting and encouraging our own manufactures, agricultural and mining pursuits, *extica* that gold into these realms, in exchange, at a large profit, for our own commodities, which experience has proved can never be obtained, but at a great loss, by attempting to go, or send to fetch it, for themselves.

The British steamer, *Pandora*, had taken on board 280,000 dollars worth of the gold of California for Panama, from whence it was to cross the Isthmus to Chagres, to be shipped by a West Indian steamer for Southampton. Accounts from Valparaiso, dated 28th, mention an arrival of 100,000 dollars worth of gold dust from California, with 330,000 dollars worth of silver, mostly in bars, from Copiapo; a decline in the value of silver was the consequence, and it was reported that a new discovery of immense value, in the latter province, had taken place. The cost of the passage from New York to San Francisco, *via* Chagres and Panama, is $375, first cabin; second cabin passengers save about $80. The prices of passage from Panama to the several ports in the Pacific, in the state rooms, are as follows—Panama to Realejo, 700 miles, $64; to Acapulco, 1500 miles, $125; to San Blas or Mazatlan, 200 miles, $175; to San Diego, 3000 miles, $225; or to San Francisco, 3500 miles, $250. Lower cabin, reduction of one fifth from the above.

## The Gold-Seeker's Manual.

BY PROF. ANSTED, M.A., F.R.S.

Within the last few weeks public attention has been most eminently alive to the extraordinary discoveries lately made, in California, of vast deposits of gold in the plains and mountain streams, and which accumulations of the precious metal appear to be patent to all the world. While so many thousands of individuals are keenly anxious to avail themselves of the opportunity thus offered of acquiring wealth with, as they think, scarce any trouble or doubt as to the result; and while many, at all risks, without knowing the difficulties to be encountered in the journey, or the dangers by which they will be surrounded should they arrive there, are sacrificing home to undertake the adventure, a work, from the pen of one experienced in the nature of such metalliferous productions, and the geology of the countries in which such deposits are found, must be looked upon as an acquisition.

Having been favoured by the eminent author with an early impression (in sheets) of a highly interesting little work on the subject, we have availed ourselves of the favour to notice it in our present Number, convinced that there will be found much, even in the few extracts we shall give, to interest the reader, and more to instruct the intended "gold seeker." The volume is entitled the *Gold-Seeker's Manual*, and is from the pen of D. T. Ansted, M.A., F.R.S., Professor of Geology, King's College, and Consulting Mining Engineer. A volume of general information on the subject from such a source will be received, we have no doubt, with the greatest satisfaction by every class, who may confidently rely on the general correctness of its details, founded as they are on long-pursued experiments and research in those branches of science more immediately connected with it. The author pursues his remarks under the several heads of, the general distribution of gold; the district and geology of California; geological position of gold in various rocks; mineralogical and other characteristics of gold, and the modes of distinguishing it when found; washing, and other mechanical treatment of alluvial gold; assay, reduction, refinement, and relative value; probable influence of the gold of California on the commercial value of gold; her prospects as a gold-producing country. After a general description of the various localities in which gold has been found, in various parts of the world, and which, next to iron, is the most widely distributed over the earth, although generally in such small quantities as not to pay the cost of working, he gives a full description of the entire districts of Upper and Lower California; their geographical, physical, and meteorological features; the mountains, lakes, rivers, &c.; and coming to the districts where gold has hitherto been found, he says—"The valley of the Sacramento is divided into an upper and a lower part, the lower part being 300 miles long, and the upper, 100 miles. It is in this upper, or northern, part of the valley that the gold has hitherto been found; it is not merely entitled to the distinction of 'Upper,' as being higher up on the river, but also as having a superior elevation of some thousands of feet above it. The division is strongly and geographically marked."

"The Shasti peak stands at the head of the lower valley, in the forks of the river, rising from a base of about 1000 ft., out of a forest of heavy timber. It ascends like an immense column upwards of 14,000 ft., nearly the height of Mont Blanc—the summit glistening with snow, and visible from favourable points of view at a distance of 140 miles down from the valley. The river here, in descending from the upper valley, plunges down through a *canon*, falling 2000 ft. in 20 miles; the upper valley trends to the north-east. It is 100 miles long, and heavily timbered; and the climate and productions are modified by its altitude, its more northern position, and the proximity and elevation of the neighbouring mountains covered with snow. It contains valleys of arable land, and is deemed capable of settlement."

In chapter 3, "On the Geology of California," the author informs the reader, that as yet little is known with accuracy as to the geological structure of the parent rocks, either in the upper part of the Sacramento river, or in the inclosing ranges. Within the peninsula of lower or old California, the range is distinctly volcanic; and a quotation, from Mr. Farnham, describes them as "a thirsty mass of burning rocks, so dry that vegetation finds no resting-place among them, but lifting themselves nobly to the clouds, and looking venerable in their baldness, they stand a vast assemblage of red and brown dearth, extending in a bold, jagged line, broader and higher onward and upward, till they fade away among the bright clouds and dowy skies of Lower California." Mr. Ansted proceeds—"Notwithstanding this desolation, the very fact of there being a vast mass of volcanic erupted rocks, redeems this land from hopeless and continued barrenness; and were it not exposed to the influence of frightful tornadoes, the vegetation, growing on such of these rocks as have had time to decompose, would still feed a large population with facility. The mountains of the range vary in height from 1000 to 5000 feet above the sea; and the country suffers much for want of water—the porousness of the rocks allowing the rain that falls to penetrate at once beneath the surface, and escape to the sea." After some considerable extracts from Humboldt, more particularly bearing on the productions of South America than California, the author proceeds—"It appears, then, that this district of Sen Francisco, from which the gold has hitherto been obtained, is a broad tract, inclosed on the east by a lofty and recently elevated tract—partly volcanic, partly trachytic—but exhibiting everywhere igneous rocks, perhaps not unlike much of that singular mass of quartz rock, porphyry, and jasper, which abounds in the Ural ridges, especially on the Siberian side, and in the gold-producing countries in South America. In the former districts, it is true that the volcanic influence is not now traceable; but there are abundant proofs of igneous action on a very grand scale, and volcanos themselves are not wanting in Eastern Asia. The valley of the Sacramento, described in Col. Fremont's report, takes its origin in several parts of the Sierra Nevada, and in the transverse range proceeding from the coast at Cape Mendocino. Several of these affluents have received names; and many of them at their junction with the main streams present considerable quantities of alluvial gold, mingled with their lands and detritus. They appear to be of the nature of mountain streams—often dry, and sometimes becoming boiling torrents. The one called the Rio de los Americanes, entering low down the river, and near where it enters the bay of San Francisco, has hitherto proved the most productive. About 25 miles up this stream from the fork is the spot called Lower Mines, or 'Mormon diggings;' and both here, and still further up, where this stream itself forks, washings have been carried on with great success. On the south fork on both banks gold has been found in large quantities, and it is clearly derived from the mountains to the east—the country rising rapidly, and becoming wild and barren in the upper part of the subsidiary valley, which ultimately become mere gullies. It appears perfectly clear that almost all the district through which run the numerous small streamlets that ultimately form the Rio de los Americanes, runs over beds of alluvial matter, containing large quantities of gold, and thus there appears to be an area of very many square miles—any part of which may fairly be tried for gold-washing with good prospect of success."

"On the Geological Position of Gold in various Rocks."—The author, after a technical description of the several rare metals with which it is generally associated, says—"The gold of commerce is obtained chiefly from sands and gravels produced from disintegration of the parent rock on the spot, or transported by water from districts where much gold is disseminated. Such sands, &c., contain amongst them fragments of gold, consisting of lumps of various sizes. A quantity, small in proportion to the whole supply, not more than one-sixth, is also obtained from true mineral veins, in which gold is associated with veins of quartz in rocks, usually schistose. The quartz in these cases is generally, but not always, cellular, rusty (from the presence of iron), and of loose texture; and the metal is usually disseminated also in the rock enclosing the vein, although perhaps not to any considerable extent. Few important and very profitable gold mines have been worked in veins, but the existence of large and little-worn lumps of gold *in situ*, proves that this negative evidence must not be regarded as having any great value."—"The origin of auriferous gravel is a question of vital importance in all gold-producing countries. Already we hear of the prospects in California being so important, because, 'after the earth shall all be washed, we have still the mines untouched, of which the gold thus obtained is manifestly the waste—the overplus—the superabundance scattered about.' And however this may be thought unreasonable by those who have made themselves acquanted with the history of other similar mineral districts, many will, no doubt, dwell upon it as something little short of absolute certainty. All the evidence, therefore, that bears on this part of the question, obtained from other countries, is worthy of attention, and the possibility, at least, of the metal found consisting of portions which have been disseminated through rocks subsequently exposed to denudation, should never be lost sight of."—"There is no evidence at present concerning even the probable position of the source of the metal, except that the direction of the streams would point to the lofty mountains of the Sierra Nevada, as the source of the gold, as well as of the waters that convey it. The cases in which true auriferous veins occur in crystalline rocks are by no means rare; but the quantity of gold in such cases is so small in proportion to the rock in which it is disseminated, as scarcely to repay the cost of working. Such veins are found in most districts where quartz rock abounds."

Prof. Ansted then proceeds, in a very lucid manner, to describe the washing and other mechanical treatment of gold, with its assay, reduction, and refinement; but as this part of the subject is more of a mechanical nature, we must content ourselves with the following simple mode of detecting attempts at imposition in gold dust, as worthy of being recorded:—"Place a little gold dust in a glass tube, or earthenware saucer, and pour nitric acid upon it; then hold the glass or saucer over a flame, or upon a few embers, until red flames (nitric vapours) arise; if it be pure gold, the liquid will not become discoloured; but if pyrites or brass-filings should have been mixed with it, the acid will become turbid, green and black, discharging bubbles of gas. After the ebullition has ceased, the residue should be washed with water, and acid again poured upon it, when the same effect may be observed, but in a less degree; and if the experiment be repeated till all effervescence ceases, it will finally leave the gold dust pure."

In the chapter on the probable effect any large influx from California may have on the commercial value of gold, the author arrives at the following conclusion:—"In the first place, we have shown that the absolute and relative quantities of the precious metals bear no necessary relation to each other; or, in other words, that a large increase, or diminution, in the annual supply of one or the other, even for some time, affects only in a comparatively small degree their relative value. In the next place, that even when the quantity of the precious metals in Europe was enormously less than at present—probably not more than one-tenth part—the increase that took place on the discovery of America, amounting ultimately to the extent of tripling the amount of money given for the absolute necessaries of life (corn and meat), only at one period perceptibly altered the value of money; producing its effect for the most part so gradually, as not to interfere with the ordinary operations of commerce. Thirdly, it appears, that even should there be a very much greater increase in the total quantity of gold supplied than has ever yet taken place—as, for example, if the quantity should be doubled for several years to come—yet this large increase must now be made to act upon so very large a capital stock already accumulated, as not to be likely to produce any immediate effect."

Another extract from the last chapter—the prospects of California as a gold-producing country—and we have done:—"Another prospect for California has reference to mineral veins; and with regard to this subject, the brightness of present prospects is not likely to be realised by the future. Mineral veins containing gold will, no doubt, be found hereafter in the Sierra Nevada, and quantities—perhaps, large quantities of gold will be thence obtained. But these veins will not give up their riches without severe labour, heavy expense, and careful and scientific management. Gold is not, and never will be, dug out of the earth by spadefull. Such ideas are the wild speculations of the thoughtless and ignorant, and are not based on any observation, or any knowledge of what either has been or is likely to be. The prospects of California, as a mining district, depend, after all, much more on the way in which human labour and human intelligence are applied, than upon casual and local supplies of the precious metals, although these may be equal, or superior, in amount to those afforded by any other country in the world. A very short time will serve to calm down the fever of excitement that at present exists; and in California, as everywhere else, the hard-working, steady, and honest will succeed, and become rich and prosperous, whether he find gold in the soil, or whether his diggings yield him crops that he can turn into gold; while the idle and dissipated, who is now, perhaps, raising many pounds weight of gold per month, by the

accidents of gold-finding, will readily part with his riches, so easily acquired, and fall back into his former condition, whatever that may have been."

Mr. Ansted argues the most favourable results from these recent discoveries—not only to the district and country to whose territory it now belongs, but also to all the world, and more especially to England, which will not fail to supply those objects of manufacture, of which she has such an abundant quantity always at hand, ready to pour into any market that may present itself. It gives us much gratification in finding our own views on this matter so completely in unison with our distinguished author, as will be seen by a few remarks in a leading column, written in the early part of the week, and before we had received Mr. Ansted's publication.

# Original Correspondence.

## CAMERON'S STEAM COAL COMPANY.

SIR,—The merits of this question, now involved in much mystery and litigation, are ill understood by the public; it may, therefore, afford a useful lesson to glance at the state of matters. It appears that the sum of 150,000*l.* was to be paid to Mr. Cameron for his interest in the property, whilst he held three-fifths of the proportion of 20,000 shares. The certain rent was to be 2000*l.* per annum, with a suitable tonnage. The other shareholders appear to have raised 48,000*l.*, the remaining 72,000*l.* being contributed by Mr. Cameron, as *part of the purchase money*. Now, whatever might have been the merits of the bargain, it is clear that extensive working, and practical economy, were to be the safety-valves of the speculation; instead of which, the company commences by the appointment of a London board and a country directory, at enormous expense, and, what is still worse, consisting of persons utterly ignorant of the subject they were to govern. If they had any suitable mining engineer, he would appear to have been disqualified for properly carrying out the works, for they do not seem to have emerged from the condition of the most commonplace colliery; till at length want of quantity, and accumulated loss by extravagant management, have reduced matters to a despairing state. Many attempts have been made to purge the directors, and to modify the terms with the landlord, but all in vain. Then comes a report of Mr. R. Dagleish as to the capabilities of the concern, which report is most severely handled, in last week's Journal, by "An Observer," who charges Mr. Dagleish with gross incapacity, or worse, with regard to the quantities of mine remaining in the grounds—viz.:

| | Mr. Dagleish. | "An Observer." |
|---|---|---|
| Broad Oak vein | Acres 1300 | Acres 450 to 500 |
| Faith vein | 1300 | 900 |
| 9-ft. vein, 6 ft. thick | 1300 | None at all. |

Surely some of the shareholders will think it their duty to cause this matter to be investigated; for if Mr. Dagleish has made such a *mistake*, as "Observer" insists he has, it ought to disqualify him from ever such another task. Mr. Dagleish recommends the outlay of sufficient capital to produce 200,000 tons per annum, without specifying the sum required, nor how it is to be applied. He also recommends the carrying out of certain other operations, upon the assumption of the carbonising quality of the coal, which is disputed by "Observer." Then he theorises upon the building of iron furnaces, and the manufacturing of malleable iron; whilst "Observer" says that there is no ironstone.

Without, therefore, venturing upon any opinion as to who is right, or who is wrong, it is impossible to refuse to the character of "Observer's" letter some credence; and, if he should turn out to be right, or that Mr. Daglish has committed blunders of half the magnitude that he charges, how grossly is the confidence of the shareholders abused. The interest of all parties in this affair is palpable, provided the subject itself possesses sufficient stamina—viz.: that the mine proprietor should encourage the lessees by a liberal concession of his terms—that the lessees should abolish all supernumerary directorships, save a managing committee, and should invest one of the best practical mining engineers they can lay their hands upon with authority to reorganise the works upon principles of sound economy and effective working. If these suggestions could be carried out, the property might again redeem itself to the lessees, and be more permanently advantageous to the proprietor than plunging into law, whilst the property itself will become permanently delapidated. VERAX.

*London, Jan. 22.*

## THE COPPER TRADE.

SIR,—It is amusing to us on this side the Atlantic to notice the excitement in England on the subject of the copper duties, and to observe the arguments for and against the measure. The duty was hardly 10 per cent. *ad valorem*—the usual rate of duty in the tariff of Great Britain—and appears to us a matter of little consequence to the miners of Cornwall; it was too small to afford any *protection*, if any were required; but as England is a large exporter of copper to all parts of the world, to talk of protecting her copper seems ridiculous. It can never operate to prevent, or sensibly to diminish, the product of the Mines of Cuba or Chili; the profit of mining is too great to be affected by a duty of 10 per cent.; so that, so far as mining in Cornwall is concerned, it seems a matter of indifference, and all the apprehensions of ruin from that cause mere imagination.

To the smelters, the *duty* would seem to us to be of little consequence also; it is too small to affect the course of the trade, which will be determined by other causes than the duty. If they would reduce the other items of their "accounts of sales," their charge for dock and town dues, weighing, sampling, storage, &c., they would do something to preserve the trade, which is really important to England, as it gives her the control of the copper market, affording freight to her navigation, a market for her coals, and employment to her labourers. If the Exchequer can spare the revenue, the measure appears to us a wise one.

Equally amusing are the opinions and proceedings in relation to the subject of smelting. The smelting companies are represented as vampires, who are sucking the life blood of the miners, who, poor souls! are unable to help themselves. Nobody seems to know the cost, or the charges, for smelting a ton of ore. The profits are represented as enormous; parties confound all their ideas by looking at "standards" and "return charges," neither of which has anything to do with the matter, but to render a very simple subject unintelligible.

Let us take the Cornish sales, as reported in your Journal of the 4th Nov., and make an intelligible debit and credit account, to discover the truth on the subject. We have the standard, 93*l.* 17s.; produce, 7¼ per cent.; price of ore, 4*l.* 13s.; and the price of tile copper, 78*l.* 10s.: the account will be as follows:—

| | | |
|---|---|---|
| Dr.—To 12·69 tons of ore for a ton of copper, at 4*l.* 13s., less 1-20th for the extra 1 cwt. in the ton, or 4*l.* 8s. 5d. for real ton | £53 | 13 9 |
| Transport and insurance of 12¼ tons of ore from Cornwall to Swansea, 4s. | 2 | 10 0 |
| Smelting 12·69 tons of ore, including coals, labour, &c., 23s. | *14 | 9 3 |
| Profit on sale of 1 ton copper, including interest and guarantee, 10 p. ct. | 7 | 17 0 |
| | 78 | 10 0 |
| Cr.—By 1 ton tile copper | 78 | 10 0 |

* Near enough for our object.

This account may be varied by changing the cost of transportation or profit, and thus change the charge of smelting to the miner; but it will probably not vary much from 23s. per ton of ore. What has "standard" to do in the matter? It is a mere *fiction*, assuming copper to be worth 93*l.* 17s., while it is really worth only 78*l.* 10s.; and what have "return charges" to do with it, except upon the same false assumption. The complaint of "dry weight" is equally ridiculous; the smelters can hardly be expected to pay 5*l.* per ton for water, of which they have an abundance at Swansea free of cost.

The simple question to be decided is, can the miners smelt their ores at a price less than is charged by the smelters, or 23s. per ton; and here it would seem that those terrible smelters stand, like a giant ogre, ready to devour the poor miners, should they attempt to try the experiment; and, before they dare begin, they must build a wall of capital high as heaven to keep off the monsters.

While the matter has been discussing in Cornwall, three smelting-works have been established in the United States, at Baltimore, Boston, and New York. At Baltimore, a single individual presented the subject to a few friends, and readily found capital for the enterprise; in Boston, a company engaged in refining and rolling copper have added smelting to their business; and, in New York, two young merchants have started, and have three or four furnaces in operation, and neither of them have invested more than 10,000*l.* for property, furnaces, and engines. If, with no experience, comparatively no means, and doubt as to supply of ore, we can start the business in the United States, it is not done in Cornwall, let us hear no mere whining about the terrible smelting companies.

I have no doubt but that, by adopting the mode in use at Boston—the German method—roasting the ore in the open air, in heaps, and reducing it in small upright blast-furnaces, with anthracite coal, or coke, the Devon Consols could reduce the entire product of their mines, on the ground, to rough copper, ready for the refiners, at an expense not exceeding 8s. or 10s. per ton of ore, and, by an outlay of 5000*l.*, thereby save 10s. to 15s. per ton. Let them try the experiment; if they succeed, every large mine in the county may do the same, and aid their smaller neighbours, while they make money for themselves, by reducing their ores also.

*New York, Dec. 26.* —— G. B. (American Institute.)

## COPPER SMELTING.

SIR,—In addition to the many remarks on copper smelting which have already appeared in the Journal, the following may not be considered unworthy of insertion, when it is taken into consideration that, in so short a time as a week or 10 days, Chilian metallic copper has been sold, amounting in value to nearly 100,000*l.*, or about one-eighth of the total annual produce of Cornwall (see last week's Journal). In addition to this, the copper in foreign ores realises a better price then that in Cornish ores, and that the late alteration in the copper duties gives foreigners an advantage over our colonial miners, both as regards the money value of copper in the ore and cake copper.

All these points being considered, it seems evident that some change must be brought about, either in the preparation of the ores for the smelter, or in the actual operation of smelting, so as to reduce both expenditure of time and labour, otherwise the English smelter and miner will assuredly lose the high position they have attained, by their hitherto inimitable skill and perseverance. Fortunately, however, much attention has lately been called to this subject: firstly, substances hitherto lost are attempted to be saved; secondly, the processes before in use are materially shortened by the introduction of certain modifications. Under the ordinary process of copper smelting, some substances are totally lost—those are principally iron and sulphur, besides a variable amount of copper carried off in the slag. The ordinary run of copper ores (the sulphurets) contain from 15 to 30 per cent. of sulphur, and from 10 to 30 per cent. of iron; the first either as sulphur or sulphuric acid, in both of which states it can be obtained from the ores in question, and the latter either as metal or oxide. Many have been the plans proposed for saving, more especially the sulphur. In some the sulphurous acid obtained in the ordinary way of roasting is passed into a sulphuric acid chamber, in company with nitrous acid; in others the ore is roasted with iron pyrites, and the greater portion of the sulphur obtained in the state of sulphuric acid, in combination with oxide of copper, from which it is finally separated as sulphate of iron, during the precipitation of metallic copper by the aid of sheets of iron, and the remaining portion of the sulphur, which escapes as sulphurous acid, is, as before, passed into an acid chamber.

In another plan, the sulphur is saved by roasting in an iron pyrites kiln, by which the amount of fuel ordinarily employed in the operation is not expended, and the sulphur is economised as sulphuric acid. In another case, the sulphur is expelled the ore, partly as sulphuretted hydrogen and partly as sulphurous acid, under which circumstances, if the proportions of the two gases be rightly managed, the final product will be sulphur. In whatever state, however, the sulphur is obtained, it is generally finally employed as sulphuric acid, either in the manufacture of alkali or bleaching powder, as well as in many other branches of manufacture; the two first are, however, the most important. But either sulphur or sulphuric acid thus obtained is objectionable in use, on account of containing variable quantities of arsenic, which it is next to impossible to completely expel—that is, in so cheap a manner as required for commercial purposes.

There is no doubt whatever that all the above processes will effect the objects intended by their several proposers; yet, as far as I have seen, and I have paid much attention to this subject, I fear that the cost of carrying out these methods of economising the sulphur will be greater, or as great, as the saving effected, and it is not only on this account that I think they will not be employed, inasmuch as the chief difficulty appears to be in the alteration of the apparatus already in use in copper works, which is now sufficiently simple, but which would be required to be considerably increased, not only in size, but in complexity, at least for the greater number of the processes just mentioned. On this account, in order to compete with foreign copper smelters, it will be necessary to introduce processes which are not only easier of execution, but which require less fuel, less time, and, consequently, a less expenditure of labour, together with some plan of rendering our poor Cornish and other ores ordinarily smelted as readily worked as the richer carbonates and oxides of the Burra Burra, and equally favoured localities.

I have already stated that many plans have been introduced for economising substances hitherto wasted in the usual routine of copper smelting, as well as to shorten the time of the operation; whilst the attention of other inventors has been solely directed to a means of reducing the amounts of fuel, labour, &c., irrespective of the loss either of sulphur or iron the ores may contain. These parties are, I think, the most likely to produce a good working process.

But in improvements in this branch of industry, as in all others, an inventor is too ready to place unlimited confidence in the hitherto received ideas of (in this case) copper smelting, more especially as regards the chemical changes supposed to take place, and, in so doing, thinks himself perfectly justified in patenting that which he may *think* an improvement, because its principles appear to be in accordance with all known chemical laws, and because he has made some laboratory experiments. It is thus that many inventors have lost both time and money, and if they have induced any party to test their inventions on a tolerably large scale, the consequence is often a failure—disappointment to the inventor and disgust and loss of money to his patron; and it is thus that many manufacturers, who would otherwise be induced to listen to the reasonings of a projector in any of his supposed improvements, are induced to have nothing to do with that which might possibly be not only a source of profit to the inventor but to themselves.

Notwithstanding all this, however, against the introduction of any new process, there is one thing quite certain—that our copper smelters at present established, or any smelting company in course of formation, must, of necessity, alter their old, and look favourably on some new plan of working, which will enable them to do more work in a given time, with a less expenditure than at present, otherwise our foreign trade will diminish to such an extent, that but a small per centage will be left us, from the increased facilities other parts of the world possess of smelting richer and more tractable ores than are our own under the present system. For instance, the readily worked ores of Australia will, doubtless, in time (if no improvements be made here) supply the Indian market with the whole of its copper, at a much cheaper rate than ourselves. The smelter, looking all this steadily in the face, must, I think, be induced to listen to the patentee of any process possessing the qualification already stated, more especially if it can be proved to him that it has been tried on a sufficiently large scale to test its value, that it is no mere laboratory experiment, and that it will require no new manipulation on the part of his workmen, or alteration in his existing plant.

I am perfectly certain that, from experiments which have been for a considerable time in operation, fine copper can be obtained from our ordinary Cornish and other similar ores, in little, if any, more than 24 hours, and that at less than one-third of the cost of the cheapest of any hitherto published process, without any change requiring to be made in the ordinary furnaces, &c., employed.—J. MITCHELL: *Hawley-rd., Kentish Town, Jan. 22.*

## METALLIC DEPOSITS.

SIR,—These are matters upon which Count Radlinski appears to be at home, and the contemplated gold mining company will, no doubt, understand the nature of these deposits, seeing that the shareholders will have to *find* them. The count has fairly driven Mr. Hopkins into a corner, and I think the former has the better side of the argument. In Teesdale, gold is found interspersed with ferruginous quartz, associated with the spathose ores of that district. In ferruginous quartz, found under the coal measures in Dean Forest, my brother (Mr. D. Mushet) first discovered gold, interspersed in grains and spangles, one of which weighed 3½ grains. In ferruginous quartz from Lothbroke, in Somersetshire, I observed specks of gold. Lastly, the Chevalier Gustav, Count Radlinski, knows of the existence and locality of an immense lode of gold, &c., in ferruginous quartz. May it prove very immense, and may it produce immense loads of gold, and thus deliver this oppressed country from the tyrannical sway of the bullionists, and give employment, wages, and food to the thousands, not to say millions, of unemployed, starving, and half-starved operatives of Old England, by unloosing amongst them a currency adequate to their wants. California appears to have been taken possession of by Sir F. Drake in 1578, and he described it as "a land so rich in gold and silver, that upon the slighest turning up with a spade, or pickaxe, these rich metals would appear mixed with the mould." It seems to me, that the very respectable body of old women in Downing-street, by whom the welfare of our country is fabulously supposed to be guarded, have let California slip though their fingers some time since the first American war, and with California all hopes of paying the National Debt must have departed. Was it the colonisation of Sierra Leone, or of Penetanguisher; or was it the equally important attempt to discover the north-west passage, which called off the minds of the powers which have been from California, where gold could be had for picking up; or was it from motives of economy, usually so strictly attended to in such matters, that they refrained from sending out a commission, with properly salaried officers, to investigate this golden region; or were all the younger brothers and scions of nobility already pensioned and salaried off at other stations, so that there remained not one to send to California?

I would humbly venture to recommend, that Sir R. Peel, Mr. Jones Lloyd, and others of that *clique*, be respectfully solicited to undertake an embassy to California, that upon their return we may have an improved edition of Sir Robert's definition of a pound sterling, of a pound of gold, of their respective values, &c., which are at present too abstruse for ordinary minds to grapple with, unless it be first admitted that a pound of feathers is lighter than a pound of lead. California, producing gold at the rate of 5,000,000*l.* annually, for 10 years, will probably disturb the currency and the self-complacency of the currency lawgivers.

Many years ago, a Mr. Radley left England upon a mining tour in South America and Mexico; he did not return after years had elapsed. The signature, "Radlinski," brought to my mind the name of this expatriated genius, and a vivid reminiscence of Captain Marryat's *Count Shucksen* was oddly enough associated with these thoughts in my mind. Did the Chevalier Gustav meet with my poor friend Radley in Mexico?

*Coleford, Jan. 23.* —— R. MUSHET.

## METALLIC DEPOSITS.

SIR,—Count Radlinski is a bold man—may he prove to be a man of metal; but the sequel of his last communication makes me apprehensive of his capability to support the daring position he has undertaken. I am not going to discuss with him on the merits of Mr. Hopkins's theory (which is now almost universally established as a guide by practical miners), although I ought to know more of the subject than the count; but I beg leave to tell him this much—if he can manage to extract 15s. worth of gold for every 20s. spent in his "rich auriferous quartz lode" (by fair mining, remember, and not gambling), I shall consider him a very clever fellow, whatever I might think of the sanity of a company who would enter into such a speculation.—A MINE CAPTAIN: *Gwennap, Jan. 23.*

## THE POETRY OF SCIENCE.

SIR,—I see that some of your correspondents, alarmed by a visitant from those climes

> "—— where counts by dozens
> Denote what we call country cousins,"

have assumed an attitude of defence against the sweeping onset of the Chevalier Gustav, Count Radlinski. For my part, I did not much mind it—perhaps from my hardened nature; I thought it might pass, and be passed, over. But, for the comfort of weaker brethren in adversity, I beg to suggest that, through the cloud of ferruginous mysticism, and the *ink sky* of error, which *raddl's* over the appalling name, we may perceive, by the aid of a little "ideology," that we have none other before us but the well-known *affiché*, C. Radley, Ch.E., developed and transposed. "Haiarn Cymry," and those who own the ancient and emphatic language spoken by those who, without forgery, forge his name, will easily accomplish the slight initial mutation of "E" to "G." Yet, it seems, "Haiarn Cymry" has for once missed the rolls in his conjecture, for we now find that *auriferous mysticism* is the peculiar province of the chevalier. California is the present land of promise (always excepting the new *steel* joint-stocks); but I fear it will acknowledge many a Moses for one Joshua. When the flight of your correspondent, "T. A. E.," is accomplished, we shall need a lecture on the "poetry of engineering;" should this country discountenance his project, let him offer it to the President of the French. I promise him a cordial reception. The prince is no mean engineer; the crossing of this isthmus has been a favourite subject, which he has taken great pains to understand, and he will discuss the matter in perfectly good English with "T. A. E."—FERREUS: *Jan. 23.*

## ROOTS AND LEAVES.

SIR,—Before I abandon the leaf-feeding doctrine as untenable, will Dr. Murray inform me whence my pansies derived their carbon, and will "J. L." elucidate the regular reproduction of coppice woods, without having recourse to the leaf-feeding principle? In reply to the complimentary remarks of the latter pettish gentleman, I have observed that it is difficult to say, whether the plant absorbs carbonic acid by the roots, or by the leaves, and that there is no reason to suppose that the plant derives its carbon from the soil—*i. e.*, from carbonaceous particles contained in the soil; I conclude, therefore (that is, I am of opinion), that the leaves at least derive their carbon from the carbonic acid of the atmosphere. This is the amount of my *assurance*, and I am open to conviction if I am in error. The evolution of carbonic acid from the earth is a fact in favour of my conclusion; for here "J. L." has at once admitted, that the plants are not fed with the carbonaceous particles of the soil, but by carbonic acid gas combining with the subaërial compounds; and, again, when condensed, and distributed in the shape of rain (combined with rain?) over the surface (of the plant?). It matters not from what source the carbonic acid is derived; it gets into the atmosphere, and thence, combined with rain, it falls upon the leaves of the plant, or descends to its roots. Either the roots, or the leaves, or both, must be the absorbents of a portion of this acid. Will "J. L.," from the results of his numerous experiments, decide this question? Twenty years is a sufficient period to mature the growth of mosses upon the surface of hard grit-stone, perfectly free from carbonic alloy, and the mosses thus grown have a carbonaceous residium when calcined, and their roots are embedded in soil, black with the humus it contains. Whence did these plants obtain their carbon, or their soil its humus? If leaves obtain their carbon through their roots only, how comes it to pass that elm trees, 18 months after they have been felled, and stacked in a timber-yard, will continue to put forth leaves? Will "J. L." tell me which kind of soil yields a timber containing a maximum per centage of carbon, or charcoal? Probably he will decide in favour of a limestone, or chalky soil, as containing the most carbonic food for the roots. Will "J. L." also inform me, if he considers that there is any connection between the potatoe blight and the enormous production of carbonic acid gas, from the rapidly increasing consumption of pit coal in England alone, amounting to at least 30,000,000 tons annually? This cause has only been in operation for a few years, and its magnitude is sufficient to affect the whole atmosphere of the globe; for if the climate of North America has improved by the clearing away of millions of acres of forest, may not the climate of the whole world be affected by the combustion of the deposited remains from hundreds of millions of acres of former forests? What can the springs from primary rocks have to do with vegetation at places remote from the former—for instance, in alluvial districts? Surely "J. L." has been indulging here in a little ideology. R. MUSHET.

*Coleford, Jan. 22.*

## AGRICULTURAL CHEMISTRY.

SIR,—Can Dr. Murray oblige me by pointing out the part of Baron Liebig's works where he advocates the view that plants derive any of their ammonia from the atmosphere? In the latest English edition, by Mr. Gregory, of Edinburgh, of his *Vegetable Chemistry*, there is an elaborate refutation of the belief, that any supply of nitrogen is obtained, either from the air itself, or from ammonia suspended in it. This may, however, be what the greatest men have sometimes to submit to—a refutation of himself. I should be glad to hear if the account is authentic, which has been going the round of the newspapers, that the baron and another German chemist have discovered the remedy for the potatoe disease. The plan assigned to them is to check the vegetation by cropping the stalk when a few inches above the ground, and repeating the pruning at subsequent periods. The theory appears good, *if the practice* correspond with it. I am glad that Dr. Murray is addressing you on vegetable chemistry. The furtherance of this science is, especially at this time, an important object. The patent vendors of free-trade nostrums may have for their avowed object the extinction of cultivation on inferior soils; but I do not think British energy is so to be overcome, or that we shall see this country reduced to the precarious condition of not being able to grow its own food within itself. Such states have never held but an ephemeral existence on the map of nations. Fresh difficulty we may hope will stimulate to fresh exertion; and necessity, as of old, become the mother of invention. There is no reason to doubt but the most inferior soils, by the due applications of science, may be brought in time to bear triple the present yield of the most favoured. The plan proposed by Dr. Murray would have the additional advantage of fixing the volubile ammonia—a great part of which is lost from the manure, even on the best drained lands, before the period of fecundation arrives, when it is most needed. One cause of the non-exhaustive property of green crops, arises in their being consumed before the

exacting operations of flowering and fruiting come on. The great advantage of *self manures*—such as stable dung—is that the straw contains the earths and salts which have already been assimilated, and are, therefore, in the most favourable condition for a repeated process. Still there can be no absolute bar to bringing artificial manures to *almost* the same state of perfection; and, in a concentrated essence, they may be applied to growing crops with great effect at periods when the use of manure in bulk is impossible. Dr. Murray appears to discountenance the old doctrine of the constant evolution of carbonic acid gas from the leaves of plants by night. It does not seem to consist with the usual economy of Nature that her vegetable powers during the day should be concentrated in assimilating carbon, to dissipate it during the hours of repose. Plants in decay rapidly convert oxygen into its volume of carbonic acid. The evolution of oxygen from the living plant is evidently a necessary consequence of that fixation of carbon and hydrogen which is the main process of vegetable life. Your correspondent, "J. L.," may perfect his crops even in *brick dust*, if he supply it with the salts necessary as the constituents of the plant. The office of the humus is mechanical to suspend the necessary elements, and expose a large surface to the ramifications of the absorbent roots. Has Dr. Ryan ever seen a fairy ring, and admired its deep green verdure in the winter, when *all around* seems "barren?" I trust Dr. Murray will continue a series of communications on vegetable chemistry, which he appears so minutely to understand. To disseminate, in a popular form, its true principles is an act of the greatest national consequence. This science has peculiar obstacles in its progress and application; *all* the elements are not at the command of the experimentalist. He must wait the slow course of the revolving seasons; and a life passes in experiments, which, in other arts, a few months might bring to perfection. An ordinary farmer cannot afford to risk experimental trials in what he calls "these new politics." With a rigid prejudice, he adheres for safety to antiquated losses, which time has sanctioned, because they do not involve him in the chance of greater. Here, especially, it is only by a combination of intelligence that we can hope to see the full resources, which are in the power of chemistry, realised on the necessities of the soil. The man of science must reduce every particular to the plainest rules, and *himself* exhibit their effects, before the *man of practice* will consent, at the sacrifice of long-cherished notions, to adopt them, or even listen to their prominent advantages.—DAVID MUSHET: *Jan.* 16.

## BOVEY IRON AND CHARCOAL COMPANY.

SIR,—The domestic production of an article in universal demand, and of proportionate value, cannot fail to attract the attention of scientific and commercial men. It is proposed, I see, to smelt and carbonise (?), by means of Bovey lignite, the micaceous ores of South Devon. The peculiar quality and abundance of the latter, no doubt, are great temptations, as well to the capitalist as to the iron manufacturer, particularly when it has been proved that our primitive ores fuse at a much lower temperature than those of Wales or Staffordshire, and require withal little or no flux; but, notwithstanding such unusual advantages, surely no body of *practical* men will assure us of the possibility of profitably coking the Bovey lignite? Not regarding the most offensive (may I not add, deleterious?) properties of this coal, and the vast admixture of clay, what per centage of "pure charcoal" do these gentlemen calculate upon obtaining? How much above 15? Perhaps, at his leisure, one of them will be good enough to answer the query. Being myself not a little interested in the successful development of the mineral resources of South Devon, I should, therefore, regret *any* failure, more particularly if such failure (as in this instance, I fear, it would be) is solely attributable to a want of ordinary prudence and foresight.—EXON: *Jan.* 23.

## ON THE USE OF STEAM IN THE VENTILATION OF MINES.

SIR,—Your Journal of the 23d Dec. last contained a valuable and very interesting communication on this subject, by Mr. T. E. Forster, of Newcastle, in which he stated, very ably and clearly, the advantages which had resulted from the adoption of high-pressure steam, in lieu of the furnace, at the Seaton Delaval Colliery. The increase of the quantity of air circulating through the mine, on steam being used instead of the furnace, is stated to have been about 50 per cent., and is, therefore, very satisfactory. Mr. Forster attributes the invention to Mr. Gurney, who suggested it to a Parliamentary Committee in 1835, and "claims no credit to himself, except in making the first trial." Who the first inventor was it may be difficult to prove, but there is no doubt whatever of steam having been used, with signal success, in mine ventilation, upwards of 20 years ago, by the late Mr. William Stewart, in South Wales. This circumstance, however it may militate against the priority of making the trial, does not detract from the credit due to Mr. Forster in attempting it, and in publishing the results. Mr. Stewart appears to have made the discovery that steam was more effective than the furnace, from accidental circumstances, and to have used it instead of the latter means, for the space of five years—that is, from 1828 to 1833. Mr. Gurney's invention being in 1835, was, therefore, seven years after Mr. Stewart's adoption of this mode of mine ventilation. Supposing that there are no prior claimants, the credit of the invention, therefore, clearly belongs to Mr. William Stewart, and not to Mr. Gurney. It is to be regretted, that Mr. Stewart did not publish this discovery during his life, but he has left sufficient documentary and other evidence to prove what has been stated. This is in the possession of his son, Mr. M. G. Stewart, of Swansea, who was employed with his father in the colliery, and who has obligingly communicated to the writer the following particulars:—The mine was situated in the Swansea valley, about 16 miles from that port, in the parish of Langnick, and called the Hendreforgan Colliery. There were two shafts to the big vein, 25 fms. each. The engine, or downcast shaft, was 12 ft. by 9 ft., with a tier of 12-in. pumps; all the coal and men passed up this shaft, the corves being of iron 3 ft. 1 in. diameter, and 2½ ft. deep. The upcast shaft was 7 ft. 6 inches in diameter. The horse-ways were 7 ft. wide, and 6 ft. high. The cross headings were 6 ft. square; the stalls were about 5 yards wide; and the air, or "wind-ways," were 5 ft. by 7 ft.; the dip of the vein was 1 in 3. The coal was an anthracite of excellent quality, but very highly charged with explosive gas, and the mine was considered as the most difficult and dangerous in the district. The ventilation was effected by a furnace 6 ft. by 7 ft., situated at a distance of 20 ft. from the bottom of the upcast shaft. There was also a "dumb furnace," or drift, communicating with the most dangerous parts of the mine and the upcast shaft. Notwithstanding these precautions, the return air generally exploded in the Davy safety-lamp.

In consequence of the level course from the bottom of the downcast-shaft giving only a small portion of coal to the rise, it became necessary to drive a pair of headings to the dip for nearly 500 yards, and erect a steam-engine underground. This engine was made by Mr. George Stephenson and Co., and, when completed, Mr. Stewart abandoned the furnace and substituted the fire under the boiler for it, increasing the draught by introducing the steam from the exhausting pipe into the flue at the end of the boiler. By this means, the quantity of air circulating through the mine was increased from 2100 to 2866 cubic feet per minute.

It was subsequently determined to sink a shaft in the mine, so as to win another coal, called the brass vein, which it was expected to be met with at 8 fathoms below the big vein, but which proved to be 37 fathoms under it. This shaft was 9 feet in diameter, and was divided into upcast and downcast by a "brattice," which is said to have been the first erected in the principality.

From the extension of the works, the ventilation was found to be inadequate to the necessities of the mine. Mr. Stewart first tried conveying the steam from the exhausting pipe into the upcast-shaft to the height of the "dumb-drift," which so much improved the ventilation as to induce him to persevere in these experiments. He then resolved to introduce into the upcast-shaft, on a level with the dumb-drift, a constant jet of steam direct from the boiler, under a pressure of 56 lbs. on the square inch. His son thus describes the event—"In eight days we had got everything ready to try the experiment, and all was kept secret, for fear of a failure. We had a steam cock, 1 inch bore, fixed on the steam pipe, between the boiler and the throttle-valve, and a pipe, 2 inch bore, connected with it and the upcast-shaft, at the height of the "dumb-drift," which was 40 feet above the furnace at the bottom. The reason for having the cock was, that the full quantity of steam would not be required when the engine was working, as that from the exhausting pipe would then be contributed. We tried the experiment on a Saturday (the 26th July, 1828) in the evening after all the men had left work—the mine being in a very foul state. There was only the engineman with me; and I opened the cock to its full extent. As we had no candles, we could form no idea for some time how far it succeeded. My father and the overman were at the dumb drift, examining the return air; and, after the lapse of two hours, they both felt perfectly satisfied that it would succeed. We then all left the mine, except the engineman, who came up about 10 o'clock at night, and complained of the draught. I examined the mine on the 27th, and found it all clear—so that a candle could be safely taken into those parts of the mine in which the atmosphere was so much charged with gas on the day previous as to explode in the safety-lamp." The quantity of air circulating in the mine after this event was increased fourfold—that when the furnace was used, being 2100 cubic feet, and, on the adoption of steam, as last described, it was 8400 cubic feet per minute—the area of the workings having been increased from 70 to 115 acres. This system of ventilation was pursued from 1828 to 1833, when the works were suspended, and ultimately abandoned. These facts are important, and will, doubtless, interest many of your readers, confirming as they do Mr. Forster's statements as to the superior efficacy of steam, when compared to the furnace, as a means of mine ventilation—proving that the invention is not of so recent a date as was imagined; and that the credit of it does not belong to Mr. Gurney, but to Mr. William Stewart, who, Mr. Forster will be glad to learn, was, like himself, a Newcastle man.

*Neath, Jan.* 22. J. RICHARDSON, C.E.

## THE CORNWALL RAILWAYS.

SIR,—I am sorry to again intrude on your valuable space, but "A Reader" seems to be rather annoyed at being interrupted and corrected in his assertions, and still goes on so rapidly with his letters on the Cornwall Railway, and its engineers, that a little correction is still necessary, otherwise some people might imagine that what he has so hastily said, relating to the engineer of the Hayle Railway, is correct.

He still knows more than he is willing to admit, and goes so far as to say that he is aware that "the engineer has taken this ground of defence" (that is, of showing that the present Hayle Railway is of the committee's pointing out). He knows more, too, for he knows that the Hayle Railway Company applied to Parliament for powers to carry a line of railway from Redruth to Hayle by a different route than the one now made—viz.: the line I spoke of in my last, whose gradients nowhere exceeded 1 in 50, and that the committee afterwards *forced* the present line on Mr. Thomas, and went to Parliament a second time, to alter their line to the one now used.

As to whether Mr. Thomas ought to have resigned the engineership of the Hayle Railway, when the committee forced the present line on him, I know nothing; but, as far as my humble knowledge goes, the engineer is generally *under the direction* of the managing committee, and is merely employed under them to carry out their views, the same as another employee; they may ask his advice, but are not bound to abide by it, and committees are sometimes willful bodies; however, this question Mr. Thomas himself can best answer, and from what I have seen of him, he is not one who often takes a step he afterwards repents; but whether he has ever seen either of "A Reader's" letters, or not, I am unaware.

With regard to the Central line of 1836, it is true that Col. Landmann and Capt. Woolcombe were the chief engineers; but the former, I believe, was never in the county—at least, on engineering—and Capt. Woolcombe did lay out, with Mr. Thomas, the line in Devonshire; but in Cornwall Mr. Thomas himself marked out where the line ought to run—this I know to be a fact.

"A Reader" has no mean opinion of his own "ordinary talent," and from his manner of writing, no doubt thinks "a *mine agent* of ordinary talent" is rather a better man to lay out a line of railway than either Locke or Brunel, for he seems to have no very high opinion of either these gentlemen. Now, after that, I think Mr. Thomas has nothing to fear from him; it must be rather a credit to him to be abused by "A Reader," and there will be no occasion for your being further troubled by—

*Truro, Jan.* 22. ANOTHER READER.

## A TOAD IN GRANITE.

SIR,—Mr. Mushet draws largely on our credulity, when he announces his having seen a living toad taken out of a block of granite! Can he be serious, or is he not in joke; or does not the announcement belong to the "Poetry of Science?" A living toad from GRANITE—beyond all reasonable controversy, a metamorphic rock! It is hard to be believed; perhaps, however, the expression is to be regarded as a mere metaphorical flourish, and belongs to the same category of *fossil forms* enunciated to have been found in the granite of Guernsey, but which I found, by rigid investigation on the spot, to have been altogether a fable. Living toads have, doubtless, been found in *sandstone*, the *shale* connected with the coal measures, and even in *coal* itself. I have seen specimens of toads obtained under all the circumstances, and am, indeed, possessed of one of them.—J. MURRAY: *Portland-place, Hull, Jan.* 24.

## ILLUMINATED GLASS COMPANY.

SIR,—I see among your "Notices to Correspondents" one in reference to the "Illuminated Glass Company." When in London, the other day, I called at their office, in Moorgate-street, and was extremely pleased and entirely satisfied with what I saw. My personal knowledge and experience are entirely favourable to the principle, which I cannot but regard as a public boon. It is invaluable to "reading glasses," spectacles, and also to telescopes and microscopes. I shall shortly have it in my power to test the principle in reference to the telescope, and am glad, in the meantime, to have my conclusions fully corroborated by the experience of Capt. Smyth, R.N. He has tried it with success on the nebula of the sword of Orion, and could distinctly trace its outline. Among the phenomena of the heavens, there are few tests more severe than this nebular image. I once witnessed the remarkable trapezium through a 25-feet reflecting telescope, constructed by Mr. Ramage, of Aberdeen. The phenomenon was altogether overpowering by its surpassing sublimity; but the trapezium was not so very distinct or so well defined as I could have wished. The illuminating and space-penetrating powers of the telescope are, when directed to this glorious object, indeed put to a severe scrutiny.

*Portland-place, Hull, Jan.* 24. J. MURRAY.

## COAL IN THE STRAITS OF MAGELLAN.

The following are copies of reports from Captain Henderson and Commander Paynter, of the *Gorgon*, stating the results of their search for any coal formation in the Straits of Magellan:—

*Her Majesty's Steam-vessel Samson, Rio Janeiro, October* 22, 1848.

SIR,—I have the honour to acquaint you, that in compliance with orders from Rear-Admiral Hornby, to make further perquisitions respecting the coal said to be found in the Straits of Magellan, I obtained at Port Famine, by the kindness of the Governor, a guide to conduct me to the veins of Punta Arenas (Sandy-bay), and having anchored in Sandy-bay on the morning of the 8th inst., I landed with Mr. Barrowman, second engineer of the *Sampson*, and proceeded to the first vein, about seven miles distant from the bay, situated on the north bank of the river Punta Arenas, 40 or 50 feet above the level of the river. The vein is 30 or 40 feet in depth, about 20 feet of which could only be got at for the snow; but all that was visible appeared to be clean and of good quality, and may be worked with great ease. The road, as far as the commencement of the first ridge of the hills from the bay, would be about four miles, over a perfect level; the remainder, about three miles, is over several ridges of hills, and when it reaches as high as the first vein descends over a deep brow to the bed of the river, and is only a footpath. The second vein is a mile inland of the first, and the third a mile and a half inland of the second, and were entirely covered with snow, and cannot be got at until the summer is more advanced; they are represented to be quite as good as the first vein, and also close to the level of the river. Having secured specimens of the first vein, and finding the principle difficulty that would attend the working of the mines would be the want of a good road, I returned to the shore by the bed of the river to ascertain how far it might be practicable to take advantage of its level to construct a road, to avoid that part of the present one which ascends the hill; and, although I found the river very tortuous, I saw no great difficulty in forming a road on its banks to join that of the plain, there being abundance of material, wood, and stone on the spot, some of the trees measuring 3 or 4 fathoms in girth. The bed of the river is filled with pieces of good coal, which must have fallen from the veins on its banks; and as these deposits are numerous, it may be assumed there is plenty of coal in the neighbourhood. I observed, also, indications of metallic substances at the bottom of several tributary rills and rivulets falling into its course. The veins have not been worked, nor are their any appearances of there being so, by the Chili Government, which has only established Punta Arenas as an outpost, under the command of a lieutenant and a small detachment, as a matter of occupation. No reliance can be placed on a supply of coal there until a road is constructed, and the means of transport from the mines to the bay secured, as it was only with great difficulty I reached the first vein by the hill road, which was deeply covered with snow. I shall leave specimens of the coal for your inspection, and herewith inclose you the copy of an extract from Commander Paynter, of the *Gorgon*, to Rear-Admiral Hornby, on the same subject, containing a statement of his having examined Laredo bay, together with Mr. Barrowman's opinion of the coal after experiments on board. I have, &c.

THOMAS HENDERSON, Captain.

The second report is hardly worth giving entire—the principal facts being, that Commander Paynter, with several officers, explored for three miles round the bay, without the slightest appearance of coal. He was informed, however, that there was coal at Sandy-bay, 80 miles from Port Famine, which lay four or five miles in the interior. The extent was not known, the outcrop only having been seen; and it would be necessary, if steamers were to be supplied, that shafts should be sunk, and the veins worked in a proper manner.

Accounts have been received from Chili, dated Valparaiso, the 28th October An arrival of $100,000 worth of gold dust from California, together with $320,000 silver, mostly in bars, from Copiapo, had caused a decline in the value of silver to the extent of 2 per cent. Another discovery of immense value is stated to have been made in Copiapo.

## THE IRON TRADE.

Mr. T. W. Booker (high sheriff of Glamorgan), in a speech on the mineral productions of South Wales, says—"There are, I find, the following blast-furnaces for the smelting of iron from the ore, within our mineral basin. In the bituminous districts of—

| | *Furnaces.* | *In Blast.* | *Out of Blast.* |
|---|---|---|---|
| Monmouthshire | 50 | 32 | 18 |
| Glamorganshire | 81 | 64 | 17 |
| | 131 | 126 | 35 |

In the anthracite districts of Glamorgan, Brecon, Carmarthen, and Pembrokeshires—viz., the districts of—

| | | | |
|---|---|---|---|
| Swansea | 20 | 12 | 8 |
| Neath | 4 | 2 | 2 |
| Llanelly | 2 | 2 | 0 |
| Pembray | 5 | 1 | 4 |
| Making a total of | 192 | 143 | 49 |

And two additional ones are in course of erection at Saundersfoot, in the anthracite district of Pembrokeshire.

The weekly average produce of each furnace in the bituminous districts may be taken at 90 tons, and in the anthracite districts at 50 tons weekly. The annual produce, therefore, of the 143 furnaces at present in blast, in this district, is not less than 630,000 tons of pig-iron.

## THE ELECTRIC TELEGRAPH.

The gutta percha insulation of wire for subaqueous telegraphic purposes, which proved so successful in the experiments at Folkestone on Wednesday, the 10th inst., and recorded in our columns of the 13th, has, as is usually the case with inventions which are likely to prove of real utility, called forth a host of claimants to the originality of the idea of insulating wire with a coating of gutta percha. Mr. Hatcher is first on the list, who, in a letter to the *Times*, on the 13th inst., acknowledging the success of the experiments, states that they will acquire much additional interest, when it is known that the same experiment had been successfully carried out in the practice of several weeks, by the Telegraph Company (whom he represents as secretary) forming portions of lines under water of 240 and 500 miles respectively. In another letter, dated the 15th, he declares he had no intention to deprive Mr. Walker, or Mr. Forster, of any of the honour due to them. "But it was important to the interests of the Electric Telegraph Company, that the public should be made aware that the value of this wire did not rest on the result of one experiment, necessarily of a temporary character, but had been established by some weeks of practical working, under far more difficult circumstances than those attending the trial in Folkestone harbour.

We next have Mr. Newton, of Lancaster-place, solicitor for Mr. Wharton, who, in a letter, also to the *Times*, dated 18th inst., after quoting the following paragraph from Mr. Hatcher's letter—"or Mr. Foster of that which he may justly claim as the inventor of so useful an article as gutta percha covered wire"—states that, on the company using gutta percha wire at the Euston station, Mr. Hatcher was applied to, and required to take a licence from Mr. W. Wharton; when he replied, that the company relied on the patent of J. L. Ricardo, M.P. He then says—"Mr. Hatcher is well aware that a suit is now pending against the company for an infringement on my client's right, whose patent is dated Feb. 11th, 1846; Mr. Forster's is dated April 27th, 1848; and Mr. Ricardo's, Sept. 4th, 1848." Mr. Walker, superintendent telegrapher on the South-Eastern Railway, now takes the matter up, in which he states, that this peculiarly covered wire was brought into existence by himself, and carried through all the stages preluminary to its manufacture. He gives its history thus—"The bad insulation of our wires in the several tunnels of this line, had been to me a source of very great uneasiness, and especially so in connection with the transmission of despatches from the continent to the morning papers, which were next to useless to the editors, unless passed up very quickly. The Telegraph Company had nothing to offer that I could advise my directors to adopt. I accordingly communicated with Mr. Forster, gutta percha manufacturer, of Streatham, and explained to him the extent of my wants, and suggested a coating of gutta percha for our wires. This was in the autumn of 1847. He took the matter up at once; and, in a few days, furnished me with specimens, covered by a model machine, which satisfied me that the plan would answer. The experiments were continued, and further specimens produced." It was then used in the Merstham Tunnel, where it has been since July last; and some has been buried in wet ground more than a year. It is sound and good still, the coat unchanged, and all the dispatches to and from London have passed through similar specimens since.

He concludes thus:—"Since I commenced this, several friends have expressed to me their surprise at the appearance of Mr. Hatcher's letter, for it would lead the public to think that instead of my having introduced the wire to the Telegraph Company—which is the fact—they had introduced it to me. I wish it to be understood that the Telegraph Company had no connection whatever with this experiment. It was by the South-Eastern Railway, and under the direction of myself." In addition to this correspondence in the *Times*, we have in the *Morning Post*, of Thursday, a communication from Mr. J. Brett, of Hanover-square, patentee of the printing telegraph, claiming to be the original proposer of the submarine telegraph from Dover to Calais, also from Holyhead to Dublin, and that, in 1846, he proposed the insulating wire with gutta percha for telegraphic purposes; he then points to several improvements in the plan proposed by him for adoption. Mr. Brett further states, that he is in possession of the exclusive privilege from the Governments of both England and France, for the construction of an electric telegraphic communication across the channel; and, that from the precautionary measures they have taken in proving the soundings, and perfecting the manufacture of a protective covering for the wires, which is calculated to last for many years, they are perfectly satisfied, when completed, the result will be in every way satisfactory, and certain in operation. We understand that it would have been finished long ere this, but for the unhappy disturbances on the continent during the past year, and the depressed state of the money market. But we do not think Mr. Brett's letter has much in connection with the *questio vexata* under notice. As far as the correspondence has gone, which we must certainly take as *ex parte* statements, though undenied, it does appear to us that whatever merit may be due to the success of the experiments at Folkestone, it lies between Mr. Walker and Mr. Foster; and that Mr. Hatcher, without any reason assigned, has endeavoured to lay claim to it in favour of the Telegraph Company.

## THE ELECTRIC LIGHT—MR. LE MOLT'S PATENT.

[Patent dated July 20, 1848; specified Jan. 20, 1849, for improvements in apparatus for lighting by electricty, parts of which improvements may be applied to other purposes of electro-magnetism.]

The specification enumerates five principal details:—

1. An improved mode of connecting the negative and positive elements, by soldering to the upper parts of both, and rivetting to the zinc element.

Hitherto, considerable inconvenience has been felt from the necessity of connecting the metallic elements by separate conductors, united finally by clamps, screws, or other contrivances, which endanger the maintenance of a perfect connection; and to remedy this evil, several unsuccessful attempts have been made. In the battery of iron and zinc, known sometimes as the Scotch battery, an arrangement was introduced to dispense with these fastenings, but eventually relinquished. In the Maynooth battery, a wedge of wood supplies the means of connection but very imperfectly, in consequence of the action of the gases on the conductor. The above plan seems to promise a simple and effectual substitute for previous modes, and a saving of time in arranging the battery.

2. The use of a new element of carbon, consisting of the carbonaceous deposit of carburetted hydrogen gas from the gas retorts and gasometers; as well as an amalgam of that carbon pulverised three parts, coal cake or charcoal, one part, and tar one part, compressed in a mould, and baked at a high temperature.

The applicability of the product resulting from the deposit of carburetted hydrogen gas as a carbon, has been long known; but we suppose its introduction as an element of the voltaic pile, has not been claimed before M. Le Molt's patent. From the specimen we have seen, it yields a very compact and almost impervious substance, more like a piece of unpolished black marble—how durable or effective in the battery, remains to be tried. However, we should have supposed that several other more suitable carbons might have been adopted for the discs, or points, to produce the electric incandescence.

3. The head of the ingot, or bar of carbon, constituting the negative element, is submitted to the electrotype process, and capped with a metallic surface.

If carbon be available as a resinous element, then this is an essential requisite to secure a perfect connection. The head of the carbon ingot, plate, or cylinder, is subjected to the electrotype process, and receives a coating of metal of the most permanent adherence, and thus furnishes a metallic surface, of sufficient tenacity to permit its being soldered to the conducting metal.

4. A coating of varnish is applied to the metallic surfaces not in action, to produce the positive electric field.

This does not appear to us new; but whether it has been already adopted under precisely similar conditions, we cannot take upon ourselves to affirm. It unquestionably is an evident advantage, to preserve from the action of the acids those metallic surfaces which are not properly in action for the production and propagation of the electric fluids.

Suitable jars are used to contain the elements, and in case of the battery being required for any purpose where it will be in motion, the jar is to be curved inwards at the top, so as to prevent the splashing out of the acids. The acids used are for the inner jar, or porous diaphram, nitric acid, and for the outer jar dilute sulphuric acid.

5. The lamp is a complicated mechanism, maintaining two discs of the purified carbon, set on metallic axes, at right angles, in a rotary and, at the same time, approximating motion. For the electrodes the carbon is to be purified, immersing it in nitric and muriatic acids for 12 hours, and subsequently in fluoric acid. It would be impossible to convey an idea of the apparatus without diagrams.

We think that this is an improvement on the original proposal to employ discs, which is of some standing, and decidedly better than a disc and point, as suggested by Mr. Staite's patent; but we cannot avoid repeating our conviction, that the mechanism is far too complicated here, as in Staite's lamp, to permit the general application of the light, and whether discs, or points, be used, they must be regulated by very simple means, otherwise we cannot expect to utilise electricity for the purposes to which gas is now subservient.

M. Le Molt specially claims the carbon, described as an element in the voltaic pile, and also the application of moulds and pressure, and the mode of manufacture stated in the specification; the electrotyping of the heads of the negative element; the mode of connecting the elements, as described, by soldering, or any permanent feature; and, finally, the application of two discs, with a rotary and approximating motion, for the purpose of producing the continuous incandescence, which constitutes the electric light.

**UNION BANK OF AUSTRALIA, 38, Old Broad-street.**—The directors having this day declared a DIVIDEND of THREE PER CENT., for the half-year, upon the entire paid-up capital of the bank, together with a bonus of 5s. per share on the 32,000 paid-up shares, and a like proportion of bonus on the £2 10s. per share, paid-up on the 8000 shares of the third series, PAYABLE on the 6th of Feb. next, free of income tax. Notice is hereby given, that the TRANSFER BOOKS will be CLOSED from the 23d inst. until that date. By order of the board,
London, Jan. 12, 1849. SAMUEL JACKSON, Secretary. 49

**SUNDERLAND DOCK COMPANY.—LOANS ON DEBENTURES.**—The directors of the SUNDERLAND DOCK COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums of £500 and upwards, for periods of three years; and in sums of smaller amount for periods of five years—to be secured on the company's debentures, bearing interest at the rate of £5 per centum per annum, payable half-yearly.

Application to be made to the secretary, at the Dock Offices, 12, Sunniside, Sunderland. By order, MICHAEL COXON, Secretary.
Sunderland, Jan. 10, 1849. 45

**STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular** MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA—On the 20th and 29th of every month. CONSTANTINOPLE—On the 29th of the month. ALEXANDRIA—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th, 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages, and ship cargo apply at the company's offices, No. 122, Leadenhall-street, London; and 37, High-street Southampton. 46

**NOTICE TO SHIPPERS OF GOODS AND PARCELS,** per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS, to INDIA and CHINA.—GOODS and PARCELS sent direct to the company's parcel office, on or before 6 P.M., on the 17th of each month, are forwarded at less cost to shippers than when sent through any intermediate channel. Cases must not exceed 180 lbs. weight each, for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No package for India or China can, under any circumstances, be shipped at Southampton, unless it be cleared through the Custom-house, and placed alongside the steamer by noon on the 19th of each month.

Detailed particulars can be obtained on personal application, or by writing.
Parcel Department, 122, Leadenhall-street. 47

**EMIGRATION TO AUSTRALIA.**
AUSTRALIAN AGRICULTURAL COMPANY.
Established and Incorporated by Act 5 George IV., cap. 86, and by Royal Charter.
J. S. BROWNRIGG, Esq., Governor.
A. W. BLANE, Esq., Deputy-Governor.

| | |
|---|---|
| C. D. Bruce, Esq. | The Hon. J. T. Leslie Melville |
| Henry Buckle, Esq. | Henry Porcher, Esq. |
| W. S. Davidson, Esq. | J. H. Ravenshaw, Esq. |
| John Hodgson, Esq. | G. R. Smith, Esq. |
| John Loch, Esq. | Thomas Tooke, Esq. |
| Stewart Marjoribanks, Esq. | G. S. Thornton, Esq. |

48

The Australian Agricultural Company having at length received from the Crown the title deeds of its grant of a million of acres, situated in the colony of New South Wales Proper, and free from all quit rents, imposts, and reservations whatever, the directors have come to the resolution of throwing open the territory of the company for sale, in allotments of all sizes, to suit the views of capitalists, with privileges annexed of commonage for sheep and cattle on the company's waste lands.

The various and great facilities the company can offer to parties desirous of settling on their lands in Australia, are set forth in a prospectus, to be had on application at the company's office.

The company has engaged the services of a gentleman many years employed in the Surveyor-General's Department in New South Wales, in which capacity he assisted in the survey of the company's lands, and became thoroughly acquainted with their character, and who will attend daily at the company's office, 12, King's Arms-yard, Moorgate-street, London, between the hours of Ten and Four, in order to afford such further information as parties desirous of availing themselves of the present opportunity of settling on the company's lands may desire. GEORGE ENGSTROM, Secretary.

**EMIGRATION.—IN THE STATE OF GEORGIA,**
UNITED STATES OF AMERICA.

FOR SALE, 120,000 ACRES of FREEHOLD LANDS, in IRWIN COUNTY; in lots of 490 Acres, at 6s. per acre; and in lots of 25 Acres and upwards, at 8s. per acre. The lands lie between 31° and 32° north; distant from the Atlantic Ocean 120 miles, and at an elevation of 400 feet above its level; free from swamps, climate salubrious and healthy, distant from England 18 or 20 days' sail. They are bounded by the navigable rivers the Flint and the Ocmulgee; by the former, a communication is opened to the Gulf of Mexico; by the latter, to the Atlantic. A RAILROAD, two-thirds finished, passes through the lands, which will connect both these rivers. 50

The purchasers of the several lots will be entitled to the minerals or products which may be found on the property, thus considerably enhancing the value.—Vessels sail nearly every week from Liverpool to Savanna or Charleston. Passage to either city from £3 to £4 per head; passengers finding their own provisions, &c.—From Charleston and Savanna, the lands are reached by either coach, waggon, or steam-boat.

Every information may be obtained relative to the above, &c., from RICHARD KELLY, Esq., 1, Royal Exchange Buildings, London.

**EMIGRATION FACILITATED.**—Those persons who expect their friends in AUSTRALIA to ASSIST them in their OUTFIT, might write to their friends there to pay the money into the hands of S. W. SILVER & CO.'S AGENTS in AUSTRALIA, or to their connections in the district, who would be named on application to S. W. SILVER & CO., in London. The agent's acknowledgment would be received by S. W. SILVER & CO., as CASH at the exchange of the day, for the OUTFIT. This proposal will be also communicated through the COLONIAL JOURNALS. EMIGRANTS' fitting-out warehouse at No. 4, Bishopsgate-street (opposite the London Tavern), where colonial information may be obtained, and small parcels received and forwarded to the colonies. 56

N.B.—CADETS to INDIA, and CABIN PASSENGERS generally to all parts of the globe (with experienced Female Managers in the Department for Ladies), fitted out as heretofore at 66 & 67, Cornhill, by S. W. SILVER & CO., OUTFITTERS, CLOTHIERS FOR HOME USE, and CONTRACTORS; and at St. George's-crescent, LIVERPOOL.

**PORTER'S PATENT CORRUGATED IRON BEAMS,** GIRDERS, and FIRE-PROOF FLOORS.—These BEAMS and GIRDERS are about 30 per cent. lighter, and 20 per cent. cheaper, than any others of wrought-iron.—The FIRE-PROOF FLOORS, although not more costly than those of cast-iron, with brick arches and concrete, give greater security from fire, with less than one-tenth of the weight.—MANUFACTORY—IRON BUILDING & ROOFING WORKS, SOUTHWARK. *OFFICE—2, ADELAIDE-PLACE, LONDON-BRIDGE, CITY.* 51

**PLANTAGENET GUARD RAZORS,** Manufactured under the authority of LETTERS PATENT GRANTED by HER MAJESTY THE QUEEN, and under the especial Patronage of the Nobility and Gentry, the Army and Navy, the Clergy, the Bar, and the Faculty.

The Razor is made of the finest tempered steel, imparting a matchless smoothness and keenness to the edge; and the addition of the Guard causes the Razor to glide with safety over the face, removing the beard without the possibility of cutting the skin.

Guard Razors are fitted for right-hand and for left-hand shaving exclusively. 52

Best black handles, per pair, 12s.; single, 6s. Bestivory handles, 16s. per pair; single, 8s.—Sent post-free for 8d. each extra.

A pair of the best Razors, elegantly finished, in a superior Russia box, is a valuable present for a nervous, paralysed, or short-sighted friend—price One Guinea; sent free for 1s. 6d. extra. The Razors are warranted, and will be exchanged if found imperfect. A single Razor, of the same quality and finish, in a neat roan case, sent free for 10s.

C. STEWART & CO., Patentees, 140, Strand (first floor), opposite Catherine-street, London.—CAUTION.—Every Guard is stamped with the signature of "C. Stewart and Co.," to imitate which is forgery.—A full description of the invention, with testimonials from practical application, sent post-free.

"We have used the Plantagenet Razor, and found shaving to be performed with the greatest freedom and ease, and with perfect safety."—*Mining Journal.*

"Among the most valuable discoveries of modern times."—*Morning Post.*

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"It is literally a fact, that this razor can be used by the operator with perfect security in almost any situation. It can be used in bed, on a railway, or even in a carriage on the common roads. This guarded razor is really a splendid invention."—*Lancet.*

PLANTAGENET RAZOR STROP.—The peculiarity of this strop consists in not yielding to the razor blade, like the ordinary razor strop, but gives that angular sharpness which alone preserves the keenness of the cutting edge.—Prices, 2s. 6d. and 3s. 6d.; sent post-free for 6d. extra.

IMPORTANT TO MINE OWNERS, &c.

**GUTTA PERCHA COMPANY—PATENTEES,**
CITY-ROAD, LONDON.

The GUTTA PERCHA COMPANY beg to bring under the notice of Mine Owners, Manufacturers, &c., the GREAT SAVING, both of time and expense, which is effected by the use of the GUTTA PERCHA PUMP BUCKETS and VALVES. These Buckets may be had of any size or thickness, *without any seam or raised joint.* They are unaffected by acids, alkalies, &c. Cold water will never soften them, and they are, consequently, much more durable than leather, and also cheaper. The most gratifying testimonials have been received from millowners, who have had these Buckets in operation for several months past, without the slightest repairs being required. 53

GUTTA PERCHA TUBING

Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Wishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines.*

GUTTA PERCHA DRIVING BANDS

Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

GUTTA PERCHA Soles for Boots and Shoes, Bowls, Buckets, Picture Frames, Brackets, Mouldings, Surgical Instruments, Vases, Cups, Inkstands, Balls, &c., may be had at the Company's Works, Wharf-road, City-road, London, or of any of their wholesale dealers in town or country.

**CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.**—At a Half-yearly General Meeting of the proprietors of the association, held at the office of the company, 26, Austinfriars, the 23d day of January, 1849.

RUSSELL ELLICE, Esq. (chairman), in the chair. 54

The advertisement convening the meeting having been read, the following report was read:—

REPORT.

The mines of this company being situated at so great a distance, it is obviously impossible, at this early period of the year, to produce to the shareholders a complete account of the workings for the whole of the year which has just elapsed. It has been provided by the Deed of Settlement, that two half-yearly general meetings shall be held, one in Jan., the other in July of each year; and that, at the former, a general outline of the situation of the company shall be laid before the meeting, and such of the directors and auditors as go out by rotation, shall be subject to have their future services continued or otherwise, as to the proprietors may seem good.

In pursuance of this regulation, the directors have now to furnish the shareholders with a statement of their affairs for the past year, as far as the same can be made up. First, with respect to the mines themselves, the directors are happy to say, that the quantity of ore raised during the first eleven months of last year, 1848, exceeds that raised during the like period of 1847, by 4763 tons—the quantity for eleven months of 1848 having been 19,792, and for 1847 only 15,029 tons. The quality of the ore itself has been much the same in both years.

The expectation held out in the report presented to the half-yearly meeting in July, that the duty on the importation of foreign copper ore would be repealed, has been realised. That reduction of charge, and the increased quantity of ore raised, would, under ordinary circumstances, have produced a large surplus of profit to the proprietors; but the directors are sorry to say, that the advantages that might have been expected from these sources have been, in a very material degree, counteracted by the comparatively low price for which the ore has been sold. Though this low price had its original foundation in the general depressed state of commerce throughout the world, in consequence of the unsettled state of political affairs on the continent (as mentioned in the last report), and that it could not be expected that the price of copper would be an exception to the general depression, still the directors have reason to complain, that during the greater part of last year, the price given by the smelters for ore was much below its value, as compared with the then market price of copper. The ore of this company sold for £2 per ton less in 1848 than in 1847, which, upon the quantity already sold, would amount to £24,000; and if the duty paid in 1847, and remitted in 1848, be allowed for, would still leave a difference of £14,000 or £15,000. To obviate the effects of this state of things, the directors, on the 4th August, ordered all the stone ore then at Swansea, or that should arrive, to be reserved on the wharf, in expectation that the price would improve, and, that expectation having been realised, it will now be sold, for though the price of copper be unusually low, the price of ore is now more in conformity with it.

The proprietors will notice, from the summary of the financial state of the company to the 31st December last, now produced, that, after allowing for all the engagements of the company, and for the reserve fund, there remains a balance of upwards of £12,000, which enables the directors now to declare a dividend of £1 per share, payable on and after the 15th day of February next.

From time to time, the directors have brought under the notice of the proprietors the attention which they had devoted, in endeavouring to accomplish some improved method of smelting, in order, if possible, to introduce it at the mines, and save part of the large sum paid in freight, and also serve as a check upon the evils now complained of. Perhaps the proprietors will be surprised to learn that, on an average of seven years prior to last year, the company has paid more than £50,000 per annum for freight; and, if some practicable mode of reducing the ores, more or less, can be brought to bear at the mines, here is room for a large saving. With these views, and in conformity with a resolution of the proprietors, passed at the half-yearly general meeting in January, 1848, the directors have lately been in communication with several parties who proposed to smelt for the company, and have concluded an agreement with Mr. Bankart, for the smelting of a limited quantity of copper, according to a new process, for which he has taken out a patent. The directors are by no means sanguine that his process will answer; and, whilst they have so restricted the agreement as to secure the company against loss, they have given his plan a preference, because they entertain some hope that, if successful, it may be carried out afterwards at the mines.

The directors are happy to say, that the business of the company at the mines has, during the last year, been conducted by the agents of the company entirely to their satisfaction—considerable reductions having been made in the expenditure, which, with the increased produce, and the late advance in the price of ore, have, together, produced the favourable balance in the financial summary which forms the basis of the present dividend.

Two directors, Robert Passenger, Esq., and George Probyn, Esq., and one auditor, Francis Mills, Esq., go out of office by rotation at this meeting, but, being eligible, are candidates for re-election; and, at the close of the meeting, a ballot will be held for that purpose.

It was then moved, seconded, and carried unanimously—

That the report now read be received and adopted.

That the thanks of this meeting be given to the chairman and directors, for their successful management of the affairs of the association.

The ballot was then proceeded with, when Robert Passenger, Esq., and George Probyn, Esq., were re-elected directors, and Francis Mills, Esq., an auditor of the company.

**COMBINED VAPOUR ENGINE.**—This invention is applied either to a single engine, with two cylinders and pistons, or, as is usual for marine purposes, two distinct engines with a cylinder and piston each. One of the pistons is acted upon by steam, and the other by the vapour of Perchloride, or of any other easily vaporized liquid. The steam is generated and applied as in the ordinary engine; but, upon its escape from the first cylinder, after having exerted its expansive force therein, it passes into a case, formed a vaporizer, containing a number of small tubes charged with Perchloride, or some easily vaporized liquid, penetrates into the space between, and thus comes into contact with the entire surface of the tubes. Immediately upon the steam coming in contact with the surface of the tubes so charged, a large portion of its caloric is absorbed by the liquid, which is thereby vaporized; and the steam, being deprived of its caloric, becomes immediately condensed, and is then returned into the steam-boiler, or, being by this process perfectly distilled, may be applied for culinary or any other purposes for which pure water is required. The vapour obtained, by the action of the steam upon the liquid in the tubes, is conducted into the second cylinder; and, after exerting its elastic force (which is greater than that of steam) upon the piston, is condensed, and, by means of a force-pump, returned into the vaporizer, which it thus keeps regularly supplied, and is alternately vaporized and condensed. 55

Cards of admission, to view the working of the engine, may be obtained by application to Mr. B. Talbot, at 47, Bedford-row, between the hours of Twelve and Three o'clock.

**CWMBRAIN PATENT IRON REFINERY.**—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a

NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from no worse pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES. 56
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire

**PATENT ALKALI COMPANY'S IRON PAINT.**—This PAINT is the PRODUCT of a PATENT PROCESS, and possesses PECULIAR and VALUABLE PROPERTIES, not otherwise attainable.

Its colour (as at present produced) is a rich *purple-brown.* It is perfectly free from the deleterious qualities of white lead.

It surpasses all other paints ever yet discovered, in point of *durability* and *economy.* 57
Two coats of this paint are more than equal to three of any other description.

From its chemical composition, it is pre-eminently adapted for covering *iron*; also *wood*, and *stuccoed*, or *brick buildings.* The process by which the base of this paint is produced, makes it impossible that any change should take place in its composition from atmospheric influence. Its identity with iron secures it from galvanic action, so fatal to the durability of lead and other paints on iron work.

It has been exposed on shipping to the action of sea-water, and of the sulphuretted hydrogen, so prevalent in sea-ports and tidal harbours, for more than three years, without change.—Its *cheapness* and *strength* render it peculiarly suitable for *iron bridges, roofs*, and *railings, farm buildings*, and *shipping.* It will also cover creosoted timber.

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Brilliant black, 9s. per gallon—Rich brown, 2s. 9s. per gallon. 58

EMERSON'S PATENT LIQUID CEMENT.—This valuable and economic PAINT is so adhesive, that it will cling to any surface—brick, Roman cement, and all other plastered work; and, being a rich cream colour, is more pleasing and natural in appearance than oil, and at an *eighth of the cost.* It is ready for use, will dry in a few hours, and possesses the property of protecting the walls as well as Roman cement. Sold in casks of 1 cwt. 2 cwts., and 3 cwts., at 8s., 15s., and 21s. per cask. GEO. LEAR & CO., Sole Agents, 16, Basing-lane, Cheapside.

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